Implantable Microchip Technologies

TOTAL PAGES 84

MARK OF DECEPTION

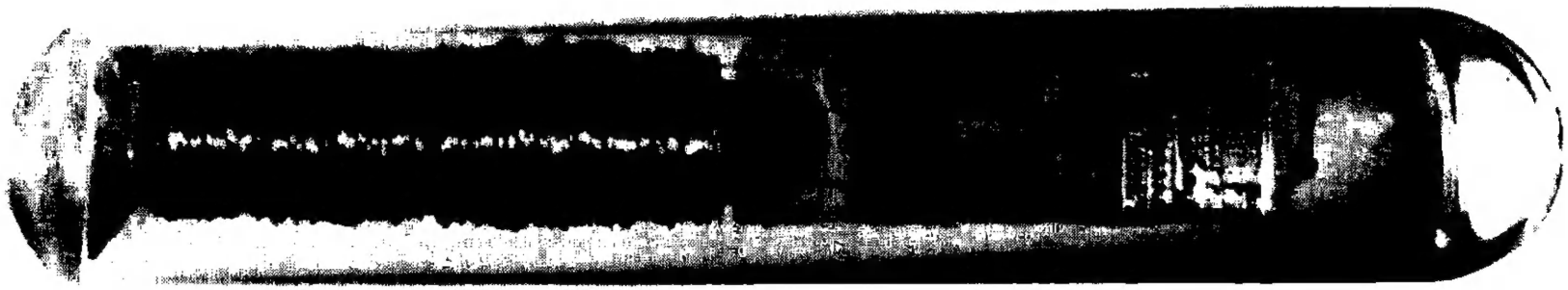
Implantable Transponder

DESTRON/IDI

Product Description:

The Implantable Transponder is a passive radio-frequency identification tag, designed to work in conjunction with a compatible radio-frequency ID reading system. The transponder consists of an electromagnetic coil and microchip sealed in a tubular glass enclosure. The chip is preprogrammed with a unique ID code that cannot be altered; over 34 billion individual code numbers are available. When the transponder is activated by a low frequency radio signal, it transmits the ID code to the reading system. Independent testing has shown the transponder to be safe and easy to implant.

Although specifically designed for implanting in animals, this transponder can be used for other applications requiring a micro-sized identification tag.



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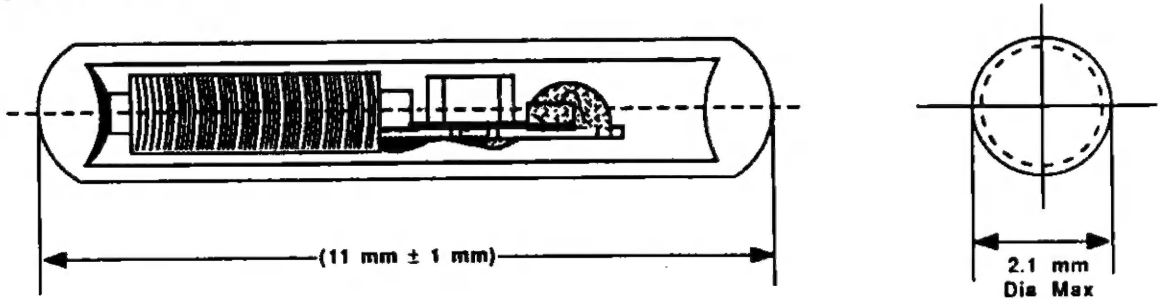

Future shocker: 'Biochip'

'Science fiction' technology here

By Teresa Allen

IJ senior writer

Don't reach for your wallet at the check-out counter.

After your food items have been priced, tallied and bagged, simply pass your hand over the computer code scanner used on the groceries, and the bill will be automatically deducted from your checking account.

Or consider this: A powerful "biochip" made from living protein that, once surgically implanted in the brain, could make it possible to program or "upload" an unlimited amount of information into the mind — without having ever cracked open a book.

Impossible? The plot of a science fiction novel?

The technology to accomplish such fantastic feats is already here or, as in the case of the living biochip, in the process of being developed, says Tim Willard, executive officer of the World Future Society, a Washington D.C.-based organization that claims 27,000 members worldwide, including "Future Shock" author Alvin Toffler.

Strong aversion

"But just suggest something like an implant in humans and the social outcry is tremendous," Willard said. "While people over the years may have grown accustomed to artificial body parts, there is definitely a strong aversion to things being implanted. It's the 'Big Brother is watching' concept. People would be afraid that all of their thoughts and movements were being monitored. It wouldn't matter if the technology was there or not. People would still worry."

Even the idea of implanting dogs and cats with identifying microchips — as the Marin Humane Society announced it would on May 1 — "is a concept we're taking slow," said Diane Allevato, director of the Novato animal shelter.

"We want to make sure it's right for the animals, and that the community is willing to accept this new technology," she added. The chip, about the size of a grain of rice, is imprinted with an identification number that corresponds to the name, address and telephone number of its owner. The information pops up on a screen when the animal is scanned with a computer wand. It is the first animal shelter in the country to use the system.

One person telephoned the society to say she felt the implants were "unnatural and weird."

"And there's no doubt about it — injecting an animal with a computer chip is a pretty unnatural thing to do," Allevato told the caller.

"But it's also unnatural, obscene really, that 15 million stray animals are destroyed in the country every year."

Chip used with cattle, swine

The microchip targeted for use by the humane society is made by Destron/IDI firm in Colorado and marketed by Infopet of Southern California. Already the chip is being used to track the health history of swine and cattle, identify race horses in Europe and monitor the migration pattern of salmon in the Northwest, according to Destron President Jim Seiler.

In another fisheries application, salmon injected with the chip are scanned as they pass through dam sites "to assure environmentalists they are not being chewed up in the (dam) turbines," Seiler said.

Other applications could include identifying pets for health insurance purposes and identifying animal research subjects in lieu of clipping ears and toes.

While there are "10,000 ideas to explore" when it comes to the chip's potential, Seiler said Destron is only concerned with animal identification and is not con-

See Future, back page

Marin Independent Journal

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Future

From page A1

sidering human application.

"There's no need to (apply the technology to humans)," he said. "The human fingerprint is unique. Animals don't have a unique identifier."

But Willard, managing editor of the World Future Society's bimonthly magazine called Futurists, said the technology behind such a microchip is "fairly uncomplicated" and with a little refinement, could be used in a variety of human applications.

"Conceivably, a number could be assigned at birth and go with a person throughout life," Willard said.

Most likely, he added, it would be implanted on the back of the right or left hand for convenience, "so that it would be easy to scan."

"It could be used as a universal identification card that would replace credit cards, passports, that sort of thing," Willard said. "At the checkout stand at a supermarket, you would simply pass your hand over a scanner and your bank account would automatically be debited."

More importantly, Willard said, "it could be programmed to replace a medical alert bracelet. For example, at the scene of an accident, a medic could scan the person to find out his or her recent medical history, allergies, a relative to get in touch with. This would be especially valuable if the person was [illegible]."

In another application, such a microchip could replace the need for house or car keys.

Within 15 to 20 years, the "regular microchip" will be out-classed by a biochip made out of living protein, according to Willard.

Compared to the microchips of today, "it will be infinitely smaller and have the capacity to carry much more information," he said. But the potential for "a range of functions that will boggle our minds" carries with it the danger of abuse — particularly over the issue of privacy.

A human microchip identification system, Willard said, "would work best with a highly centralized computer system where one identification number would gain access to medical and academic records, home security — all kind of things. But under this arrangement, as you can imagine, the security risks are somewhat intense.

"People tend to be romantic about their independence and privacy, but the reality is that most information pertaining to education, credit history, whatever, is readily available to just about anyone who asks. Anyone who has ever gone through a credit check knows this."

Another futurist found the concept of microchip implantation in humans offensive.

"It reminds me of tatooing concentration camp victims in World War II," said Robert Mittman of the Institute for the Future — a non-profit research and consulting firm in Menlo Park.

He said there were better methods of identifying people than "violating the integrity of their skin."

"Personally, I have problems with it. If it's ever used on humans, it won't be very widespread. People would end up sacrificing some civil rights," he said.

Martha Kegel, associate director for the American Civil Liberties Union for Northern California, expressed concern about how medical and other private records would be kept from "inquiring minds" if such a system existed.

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GANNETT

Microchip 'tags' will point to pets' owners

By NIKI CERVANTES
Copley News Service

LOS ANGELES — Computer-compatible cats and canines are about to be unleashed in Los Angeles.

In a novel attempt at reducing an overwhelming population of lost dogs and cats, the Los Angeles City Council yesterday voted to implant some pets with microchips programmed with identification information.

Beginning in March, the high-tech ID tags will be implanted in the estimated 14,000 pets adopted each year from the city's six animal shelters. Animal control officials will also start a campaign urging all pet owners to go to city shelters and have the chips put into their dogs and cats.

The cost? About $4.50. And it hardly hurts.

"It's just like getting a shot," assured Robert Rush, general manager for the city's Animal Regulation Department. "We use a syringe. It's quite easy. We're talking seconds here."

Council members did vote 10-3, however, to put the bite on pet owners by raising impound fees to help pay for the $123,000-a-year program. The cost of claiming a lost dog from a city shelter will jump from the current $10.50 to $25 the first time, $35 the second and $45 each time after that. The redemption fee for cats will rise from $8.50 to $13.50.

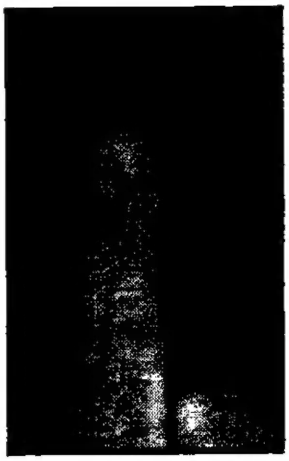
The sterilized glass microchips will be placed just beneath the skin on the back of the neck for dogs and cats. An ID number on the chip will pop up on hand-held scanners and then feed into a computer loaded with the name, address and telephone number of the pet's owners.

"You know how the scanners work in grocery stores?" Rush said. "It's the same technology. It just hasn't been applied to this kind of thing. But the city of Los Angeles has always been out in the front of things."

Los Angeles' microchip program is the first in a big city. Only one other jurisdiction — a small town in Marin County — uses the implants.

Rush estimated the city will be able to return 13,000 more pets thanks to the microchips. Last year, only 5,700 of the 90,000 pets at city animal shelters were claimed by owners. About 14,000 were adopted by new owners.

City shelters get as many as 40,000 calls a year from owners looking for lost pets. Most owners don't know where shelters are located, and one reason many pets go unclaimed is that they are returned by good Samaritans to shelters in far-flung parts of the sprawling metropolis.



Under the skin: *The microchip ID implant is the size of a grain of rice.*

Vets chip in for pets

Union-Tribune photos / BARRY FITZSIMMONS

Unusual injection: *Wizzard, an alpine goat, gets a microchip implant from animal technician Kim Williams. Zoo worker Boo Shaw assists, and Catherine Yarber observes.*

Tiny implants can provide foolproof ID

By MARK SAUER
Staff Writer

Your precious pet iguana has turned up missing, and the guy down the street is suddenly showing off a new reptile that looks suspiciously familiar.

Now, how would you be able to positively ID an iguana?

With a microchip, of course.

Veterinarians in San Diego and across the country are implanting microchips under the skin of pets and exotic animals as a foolproof method for positive identification.

Dr. Bob Stonebreaker, a Del Mar veterinarian, reports that the microchipping of all ostriches and emus in San Diego County is virtually complete.

"It was a big job; must have been a couple thousand or more to do," said Stonebreaker, who breeds the giant birds as a sideline.

The veterinarian said "a lot of ostrich rustling occurs in this county. These birds are worth a lot of money, and this is a surefire way people can ensure their birds are permanently ID'd."

Dr. Jeff Jenkins, meanwhile, has been targeting pot-bellied pigs.

"You can't tattoo 'em — their skin is black," noted Jenkins, a Mission Valley vet who specializes in birds and exotic pets, including reptiles and the popular pigs.

"Besides, tattoos can be altered. The microchip solves the problem."

About the size of a grain of rice, the microchip is implanted by means of a simple injection, no anesthesia required. It contains an ID number that is read by a hand-held scanner; the number is matched to the animal owner's file at the chip company.

The chip, which is harmless to the animal, lasts for decades and need never be disturbed. There is no power supply or any moving parts to worry about.

Many dogs who slip their col-

See Implants on Page C-5

STATE & VALLEY

THE ARIZONA REPUBLIC
THURSDAY, JULY 20, 1989

'Eye in sky' to track kids a teen horror

By Charles Kelly
The Arizona Republic

Jack Dunlap envisions his eye in the sky as a way to rescue snatched children, but it sounds like a teen-age nightmare.

You, Joe Teen-Ager, have a computer chip buried in your body, and a satellite in the sky tracks you *wherever you go:* to your girlfriend's house, to the local poolroom or to the beer party in the desert.

Whenever Mom or Pop get worried, the police are dialed and asked to track you down on their computers.

Of course, Dunlap didn't come up with his KIDSCAN idea so that it could bird-dog teen-agers.

The system is supposed to help find children who have been "picked up, transported, molested, abused, raped and murdered," he says.

Dunlap, who runs Arizona West Film Productions Inc. in Tucson and works as a private investigator when the film business gets slow, thinks he has hit on a lifesaver.

"The most important thing is to save the children," he says.

Each child whose parents signed up for KIDSCAN would get a computer chip planted under the skin and an identification number.

The chip would transmit a signal that would bounce off a satellite and be picked up by police on a computer-screen map.

A parent with a missing child could call the police, give the KIDSCAN number and have the child traced. Police everywhere would have the equipment, so you could find a child anywhere.

But if Dunlap's dream is realized, it will

— *See* IDEA, *page B3*

Steve Marcus/Special for The Arizona Republic

Jack Dunlap says his KIDSCAN system, if developed, would help parents locate children who were missing. He is flanked by Eloise M. Yanez (left) and Lorna R. Lujan at Tucson's Optical Electronics Inc., which will build a KIDSCAN prototype if Dunlap can finance it.

Idea of tracking kids via chips could be teen nightmare

— IDEA, *from page B1*

cause some troubling privacy problems, said Louis Rhodes, director of the Arizona chapter of the American Civil Liberties Union.

The police could use the system to enforce curfew laws or trace the movements of teen-agers who had not agreed to such scrutiny, he said.

"It's always dangerous to have so much information given to the police," Rhodes said.

Detective Charles Masino, a veteran of the missing-persons division of the Phoenix Police Department, acknowledged that some parents would be concerned about the "Big Brother" aspects of KIDSCAN.

But the concept is attractive, Masino said.

"Any technology that can be used to detect missing children and children that are in danger would be welcomed," he said.

Dunlap's project is just in the talking stage. He's trying to raise money to have a prototype built.

At one time, he said, he had some Pennsylvania investors prepared to kick in $600,000.

He received encouragement from employees of Martin Marietta Energy Systems Inc., which runs the Oak Ridge National Laboratory in Oak Ridge, Tenn.

Dunlap said officials there first told him they would build the prototype, then backed out.

"It was like a James Bond movie," Dunlap said. "It was like they had been told to shut up and stay away from it."

When the lab people sidestepped the project, his financial angels made themselves scarce, Dunlap said.

"It was really weird," Dunlap said. "This sort of knocked me for a loop."

Joe Culver, a lab spokesman, said there wasn't anything weird about it.

Lab people did speak to Dunlap about a microchip they are developing, he said. Scientists want to pest the chip on "killer bees" to trac them as they sweep up into the United States from Mexico.

But the chip hasn't been full tested, Culver said, so the lab can' make a commitment to Dunlap.

"It's way premature," Culver said.

Implants C-5

Microchips are sure-fire way to identify pets

Continued from C-1

lars and escape are caught and then destroyed at pounds and animal shelters because there was no way to locate the owners, Stonebreaker said. Microchips can solve that problem, and shelters here and elsewhere have taken to scanning strays in an effort to locate owners.

In the chips

The microchips are placed in standard places on animals, Stonebreaker said: above the left shoulder blade in four-legged animals; over the left breast muscle in exotic birds; and behind the left neck muscle in very large birds.

"The microchips are undetectable without a scanner," said Stonebreaker. "They can be seen by X-ray, however."

Although several companies here and in Europe manufacture and sell microchips and scanners, the most popular model is made by American Veterinary Identification Devices (AVID), a company based in the town of Norco, near Riverside.

After a decade of development, AVID's microchips have been available to the public for about two years, said Amy Havey, marketing director for the company.

The scanners needed to read an animal's ID number off the chip cost $1,250 apiece, said Havey. That cost could be a reason microchips have yet to really catch on among veterinarians.

When a vet becomes the first in his community to buy a scanner, however, AVID sends along a second one at little or no cost so the local animal shelter will be able to take advantage of the technology.

Pet owners are charged between $15 and $40 to have microchips implanted in their animals, Havey said. (Stonebreaker, who charges $35 for the service, said the chips themselves cost about $8.50.)

Havey said the chips have been especially popular with people who own horses and other farm animals, because branding is expensive. Brands also can fade or be altered, and they generally aren't recognized over state, or even county, lines.

Veterinarians at the San Diego Zoo have found microchips to be useful in distinguishing between reptiles, birds, bats and certain hooved animals that are difficult to tell apart, said spokesman Jeff Jouett.

"When you buy a pig from me, it comes microchipped," said Colette O'Grady of Fallbrook, who breeds Vietnamese pot-bellied pigs as pets.

"Farm pigs usually have ear tags or tattoos. But since I'm breeding quality pets, I use microchips. People don't want an ugly tag," O'Grady said. "People who take their pigs to show routinely use microchips to identify them these days."

A novel ID: Implant plan for pets OK'd

ly Niki Cervantes
OPLEY NEWS SERVICE

Computer-compatible cats nd canines are about to be unleashed in Los Angeles.

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Grocery scanners

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PETS/A10

Pets

FROM PAGE A9

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City shelters get as many as 40,000 calls a year from owners looking for lost pets. Most owners don't know where shelters are located and one reason many pets go unclaimed is they are are returned by good Samaritans to shelters in far-flung parts of the sprawling metropolis.

Lost identification

Pets also often lose their ID tags when lost. Microchips remedy that problem. The program also provides a central computer listing of all pets that can be used by each shelter, Rush said.

"It's not unusual for a pet lost at the beach to end up in east (San Fernando) valley," he said. "People don't know where to call for them."

Although the increased fee approved Friday can be waived for senior citizens and low-income residents, several council members worried that the hike would discourage pet owners from claiming their dogs and cats.

"Raising the fees makes it harder to get animals out of the shelter," said Westchester-area City Councilwoman Ruth Galanter.

Thursday
January 7, 1993

SAN BERNARDINO COUNTY
The Sun

INLAND EMPIRE

The Sun
Section B
Metro Final

Photos by DAVID CRAMER/The Sun

Ken Hey holds down Apollo, the cat, while Scott Gragson, injects a microchip for identification purposes. Gragson is a national sales manager for AVID, the company that makes the microchips.

HIGH TECH TAGS

■ Animal control officials introduce microchip implants for pets.

By RICHARD BROOKS
Sun Staff Writer

DEVORE — Pin-sized microchips are being implanted in cats and dogs to save them from untimely deaths at county-operated animal shelters.

"It's permanent identification for your animal," animal control supervisor John Papp said Wednesday, when the first electronic data tag was implanted in a dog named Nabos.

The dog didn't even flinch as the tiny chip vanished between his shoulder blades.

Chips are available to any pet owner willing to pay $20. Because of the fee, the voluntary program won't cost taxpayers a cent, said Papp.

Animal control officers will implant chips at county shelters in Big Bear Lake and Devore.

It's cheap insurance, said Papp, shelter overseer.

Strays are kept at county shelters at least three days so owners can claim them. But only 25 percent of the dogs —and 1 percent of cats — get reunited with their owners. The rest are put to death unless adopted.

The new tags are supposed to improve all that. Each carries a nine-digit number referring authorities to the owner's address and phone.

Strays will be checked twice with a hand-held electronic scanner, Papp said.

Dozens of similar tagging programs are being conducted throughout the nation. Among the closest locations are Riverside and Orange counties.

In San Bernardino County, dog owners who buy microchips still must purchase regular licenses. The electronic option offers added advantages.

"Somebody isn't going to be able to steal your dog, take the tag off, and claim the dog is their own," Papp said.

And vicious animals will be injected with the electronic tags to help persuade their owners to keep them locked up.

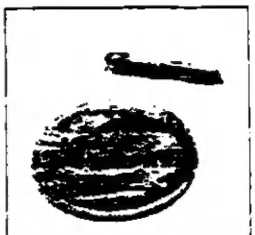
"If a (vicious) dog is picked up, we'll know right off the bat. And if the owners have two animals, they can't pull a switch on us. We'll know right off which animal was out."

The tags are manufactured by AVID, a Norco-based firm.

AVID was selected partly because its scanners read three of the four chips in use in the United States, said Papp.

The tags won't please everyone, said Scott Gragson, AVID's national sales manager.

"Anybody who doesn't want their animal traced back to them won't like this."



CHIPPING IN

The microchip is smaller than a dime and is implanted between the shoulder blades of an animal.

■ Microchip implantations are available at Devore Animal Shelter, 1977 Shelter Way, Devore. Hours are 10 a.m. to 6:30 p.m. weekdays and 10 a.m. to 5 p.m. weekends.

THE ORANGE COUNTY
Register

Friday, January 8, 1993

The Orange County Register

Metro

NEWS FOCUS

Microchip implants aren't the perfect pet ID

By Debra Warner
The Orange County Register

James Patanella had a happy reunion with his dog Bear on Tuesday. The shaggy sheepdog mix was lost, but the Orange County Animal Shelter traced Patanella by reading a microchip implanted between the dog's shoulder blades.

"Before I even knew he was missing, I had a message on my phone machine," said Patanella, of Garden Grove.

A happy story — the kind microchip companies love to tell. Tiny chips implanted in pets help animal-control officers reunite lost or stolen animals with their owners.

But Bear's rescue was not as assured as it sounds. With three incompatible types of microchips on the market, he could have ended up at a shelter equipped with an incompatible scanner and been put to death — one of millions of pets killed each year for lack of identification.

Microchips, which cost up to $70 for insertion and lifelong registry, can save lives, solve legal disputes over ownership and even

Please see PETS/2

Daniel A. Anderson/The Orange County Register

James Patanella of Garden Grove is reunited with his sheepdog mix, Bear, on Tuesday at the Orange County Animal Shelter after shelter workers identified him by scanning a microchip implanted between Bear's shoulder blades. The dog was not wearing other identification when he was lost.

THE ORANGE COUNTY Register

PETS: Some experts want unified ID system

FROM 1

prevent fraud in purebred registries, animal-welfare and industry experts say.

But they're not foolproof alternatives to the low-tech collar tag.

"It's very important that the companies and the veterinarians be real straightforward with people and be clear about what they're buying," said Dr. John Hamil of Laguna Beach, president of the California Veterinary Medical Association.

Take Patanella, for example.

"My understanding is that the state of California would scan every animal they bring in. If I ever move, it would still work, because they would call the vet," Patanella said.

That's not the case.

Patanella could move to an area with a shelter that does no scanning or one that chooses a different microchip system. Some shelter directors said it's impractical to check each dog and cat with several scanners.

"We're talking about large numbers of animals, and people who have a lot to do," said Kathy Jenks, director of the Ventura County Department of Animal Regulation. "We're all overworked and underpaid."

Pat Miller, director of operations for the Marin Humane Society, said, "I'm not willing to ask my staff to scan with two or three scanners." Last spring, the National Animal Control Association, members of which include animal shelters and humane societies, suggested a boycott of microchips until the companies agree to share enough information so any chip could be read by any scanner.

> "So you're giving up the benefit of this wonderful technology so you can all read the one that's inferior. I think it would be better to have a side-by-side testing by all shelters or other organizations. The best technology will win."
>
> **InfoPet senior account executive Lindy Harton**

"The companies have paid lip service, but there hasn't been any real effort toward compatibility. They're out there selling like crazy and hoping the other guys will go broke," said Edward Prince, editor of the National Animal Control Association News, based in suburban Seattle.

Hamil is more optimistic that the microchip industry will develop a statewide and eventually an international standard.

"I believe the companies will ultimately see it's good business to cooperate," he said, adding that a universal scanner could open new markets.

Registries for purebred dogs or cats, for example, might require microchips for their members if they were assured that the animals could be identified anywhere. In pet stores, the chips could function as bar codes do for grocery items.

Dr. Hannis Stoddard, the veterinarian who founded American Veterinary Identification Devices, or AVID, in Norco, and Daryl Yurek, founder of Destron-IDI in Boulder, Colo., said they do want to develop a standard system.

Not so with the third company, InfoPet Identification Systems. A spokeswoman said her company's chips and scanners work from a farther distance. Animals can simply be walked past a scanner rather than examined closely with a hand-held scanner, said Lindy Harton, an InfoPet senior account executive.

"So you're giving up the benefit of this wonderful technology so you can all read the one that's inferior," Harton said. "I think it would be better to have a side-by-side testing by all shelters or other organizations. The best technology will win."

Microchips came on the pet scene in 1987, when International InfoPet Systems, based in Agoura Hills, started marketing a chip made by Destron-IDI.

In 1991 the market got hot and hairy. InfoPet changed hands and became InfoPet Identification Systems, and the new owners, based in Minnesota, started carrying a different type of chip, made by German company Trovan. Destron-IDI started marketing its own chips. And AVID entered the fray with a third type of chip.

Two years later, the result is what one industry observer describes as a "mosaic of technology." Orange County, for example, uses an AVID scanner; Ventura County uses InfoPet; and Los Angeles County does not scan at all.

"We're caught between two technologies," said Frank Andrews, director of Los Angeles County Animal Care and Control. "We're holding off until questions on compatibility are solved."

Orange County veterinarians sell AVID chips and most area shelters use AVID scanners. AVID recently donated 5,000 microchips, which the Orange County Animal Shelter will implant in the first 5,000 animals adopted this year.

"We have a pretty good situation at our animal shelter, but if you go on vacation (with your pet) or if you move, that will not be the case," Hamil said.

InfoPet plans to go head-to-head against AVID in direct marketing to Orange County veterinarians this year, Harton said.

At worst, microchips could go the way of animal tattooing, another permanent-identification technique some hoped would save the nation's pets from death, said Bill Brothers, president of Animal Care Equipment and Services in Crestline.

"Tattooing is a fantastic idea, but it basically doesn't work," Brothers said. "There should be just one registry."

With more than 200 tattoo companies, some pets have a registry number, others the owner's driver's license or Social Security number.

"The problem with tattooing is, what does the number mean and who do you call?" asked Dr. Richard Glassberg, a Fullerton veterinarian who implants AVID microchips.

Some animal-shelter directors say new technology such as a microchip inevitably provides some inconveniences and even a few wasted dollars. Remember Beta videocassette recorders? The important thing, they say, is that even with multiple systems, hundreds of lives have been saved.

"If people have to buy a second chip, so what?" Ventura County's Jenks said.

"We can't wait to try to save animals. We need to do something now," Hamil said.

That's fine as long as buyers know about the microchip's limitations, Prince said.

"Yes, a microchip can help recover their pet," he said. "But these ads that say your animal can be picked up anywhere and identified in three seconds? No, that's not the case."

More on microchips

- Microchips are the size of a long rice grain and cannot be seen or felt once implanted.
- Microchips can be implanted in dogs, cats, birds and other animals — usually in the neck or shoulder-blade area.
- Microchips do not transmit radiation or affect the animal's health.
- A microchip scanner reads the chip's radio wave, which shows the animal's individual identification number. The microchip registry lists either the veterinarian or animal shelter that implanted the chip, which keeps records of the animal and its owner; for an additional fee, the registry keeps up-to-date information on the owner's location.
- For more information on microchips, contact your veterinarian. Implantation usually costs $15 to $35. Contact your local animal shelter to see which, if any, type of microchip it scans for. Most Orange County shelters scan for American Veterinary Identification Devices (AVID) microchips.

Old-fashioned way

Although new technology offers promising means of permanent identification, a pet owner can never go wrong with the old-fashioned identification tag attached to a collar around the pet's neck. For cats, such tags should be attached to an elastic safety collar.

A stranger who finds your pet cannot read a microchip but can read a tag and call you or return your lost pet immediately.

Order forms for identification tags are available at veterinary offices and pet stores. The tags cost about $5. The tag can include a friend's or relative's phone number in case you can't be reached.

The Animal Assistance League of Orange County offers tags. Send a check or money order for $4 to Animal Assistance League, Box 38, Midway City, Calif. 92655. Include your name and address. An order form will be mailed.

Microchip becomes new pet tag

Rice-size implants have info to help locate owner

By **Anne Sciater**
News staff writer

Most pet owners know the battery of shots that can keep their dog or cat healthy: rabies, distemper, feline leukemia or parvo virus.

But not many know about the newest injection that can save their pet's life.

It's not medicine, but a microchip the size of a grain of rice that can be implanted under the animal's skin. The chip carries an identification number that can be used to locate the pet's owner.

The microchip is read with a hand-held scanner that is passed over the body of the animal. When the chip is located, the screen of the scanner displays a nine-digit number that can be used to search a national data bank and find the pet's home.

"You can't imagine how many times we've had people call and say, 'I was washing my dog and he got away without a collar,' " said Catrice Conley, director of development for the Greater Birmingham Humane Society, 1711 Lomb Ave.

Without a collar or tags, animals risk being picked up by Rabies Control, the Birmingham agency that collects strays. Because of space limitations, unidentified animals are kept there for only three to seven days, she said. After that, they are put to sleep.

Ms. Conley said although the non-profit organization has had the scanner for more than a year, the chip has been responsible for only one canine homecoming so far.

"We check every animal that comes through the door, but I think it's because people don't know that this is available," she said.

The injection of the chip costs $25 and can be performed quickly and painlessly at four veterinarians' offices in the Birmingham area.

AVID, the California company that markets the microchip, charges $15 to list an owner's

See **Microchip**, Page **26A**

NEWS STAFF PHOTO/EDOUARD BRUCHAC

Holly Hill, a veterinarian technician, scans Tess for an indentifying microchip implanted into the dog.

Microchip

From Page **23A**

name and address — the registration covers all pets the person owns in his or her lifetime.

The injectable chip has been used for nearly 10 years in laboratory animals and aquariums, said AVID president Dr. Hannis Stoddard, and marine biologists in the Northwest use it to track endangered salmon. The American Kennel Club may soon use the chip in place of the identification tattoo worn by many AKC-registered dogs, and the San Diego zoo has already injected $20 million worth of animals, an AVID spokeswoman said.

More than 2.5 million animals carry the microchip, and nearly 500 humane societies across the country have scanners, Stoddard said.

Homewood veterinarian Dr. Charles Becker was the first to bring the microchip system to Birmingham. He donated a scanner — worth about $1,000 — to the Greater Birmingham Humane Society, and Walker County and Vestavia Hills animal shelters followed suit and purchased scanners.

The chip can help lost pets find their way home, but it can also help settle disputes over ownership, said Humane Society Executive Director Beth Kellogg. "I think it's great because not only do you have a permanent form of ID, but you can prove it's your animal."

Mrs. Kellogg's dog Tess has the microchip implant, along with an AKC tattoo and traditional dog tags. Veterinarians and animal control workers stress that the implant is a supplement but not a replacement for traditional identification tags.

The AVID microchip implant is available in the Birmingham area at Becker Animal Clinic, Vestavia Hills Animal Clinic, Sumiton Animal Clinic and Alford Avenue Veterinary Hospital. For more information, contact the Greater Birmingham Humane Society at 780-7281.

THE BIRMINGHAM NEWS
METRO/STATE
SUNDAY, AUGUST 2, 1992

Identification implant chip can help rescue lost pets

Week in and week out, I tell you about products that are, or soon will be, vying for a chunk of our paychecks.

GADGET GURU

ANDY PARGH

Today I am going to do something a little different. I'm going to tell you about a marvelous lifesaving service that is having trouble getting off the ground. The problem is not the quality, it is that most of us don't know the service exists.

I'm talking about the AVID microchip and PETtrac. These work together to provide a permanent identification system for pets. Here's how it works:

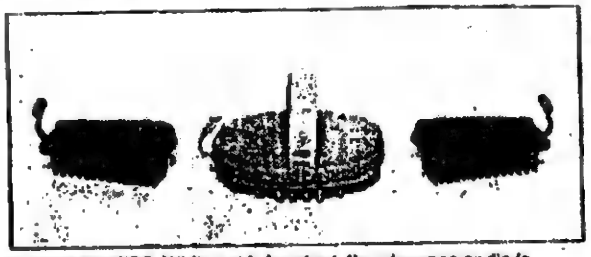
PETtrac is a national computer network designed to expedite the return of lost or stolen pets. It uses the AVID microchip — a tiny integrated circuit slightly larger than a grain of rice that is implanted under a dog or cat's skin at the back of the neck.

Chip identifies pet

The module is encoded with an identification number that can be cross-referenced to the pet's owner or veterinarian. Unlike a tag or collar-secured name plate, it cannot fall off.

If the pet gets lost and ends up in an animal control center, the attendant can pass a scanner over the pet's shoulder. If the pet has a PETtrac implant, its identification number will appear on the scanner's digital display. The folks at the animal control center can call a toll-free number and learn the owner's and/or veterinarian's name and number.

You may not think this is a big deal. But when you consider that one out of every three family pets will be lost, and only about 10 percent of lost pets are ever reunited with their owners, this plan makes a lot of sense.



FLEA FIGHTERS: White pet is brushed, flea shampoo or dip is evenly dispersed through tiny holes in the thick bristles.

COLLAR OF LIGHT: Battery-operated color features a series of flashing red lights.

The cost is reasonable, too. A one-time charge of about $50 includes the cost of the electronic module and inclusion in the PETtrac national register. If the family moves, a change of address can be made at no charge.

Donated to shelters

What really makes this program good is that scanners are donated, at no cost, to animal shelters. There is one catch: The shelter has to promise, in writing to the manufacturer, that its staff will scan each pet upon arrival, or at least prior to euthanasia, placement or sale, and promptly notify the owner. The scanning process takes less than 10 seconds.

The system does work. A test program on an Air Force base in Misawa, Japan, achieved phenomenal success in its first year. The year before the program was begun, 180 animals were euthanized. During the program's first year, that number was reduced to 15.

For the names of veterinarians who can implant the AVID microchip in your pet, call (800) 336-AVID from 10:30 a.m. to 9 p.m. or write to AVID, 3179 Hamner, Suite 5, Norco, Calif. 91760.

Illuminated collar

A novel way to ensure your pet's safety is with the Protect-a-Pet. This is an illuminated collar that makes your pet visible at night.

The Protect-a-Pet is a clear plastic collar that features a series of enclosed red lights that flash sequentially. It runs on three button-type batteries, has an on/off switch, is available in five sizes and sells for $20.

For information, call Hammacher-Schlemmer at (800) 543-3366 from 7 a.m. to midnight daily; ask for item No. 46322H.

Summertime is flea and tick season, and most pet owners know that applying sprays or powders to a dog can be more difficult than it sounds. That is, unless you have the Brush-Ette.

HIGH-TECH ID: Scanner shows the ID number implanted in a module in dog's shoulder.

Inside this thick-bristled plastic brush is a reservoir for flea shampoos or dips. While brushing, the shampoo evenly disperses through tiny holes in the bristles. It sells for $10 at pet stores.

Have a question? Write Gadget Guru, 95 White Bridge Rd., Suite 503, Nashville, Tenn. 37205. Fax number: (615) 356-9596.

THE ORANGE COUNTY
Register
MARCH 7, 1993

The ramifications of microchip pet implants

Often things begun with the best intentions are easily transformed into procedures that are less than desirable ["Microchip implants aren't the perfect pet ID," news, Jan. 8].

Implanting microchips in our animals sounds reasonable enough. We own our pets. If they are lost, we have a better chance of finding them if they are picked up by animal shelters that are equipped with scanners.

However, it seems to me that we are in the beginning stages of a larger experiment. Suppose these chips could be enhanced to emit radio waves that are readable at greater distances? We would then have a tracking device. Suppose we implanted microchips in our littlest children in case they are lost or stolen. We already have programs to fingerprint them, why not implant them? But in the process of protecting them, aren't we, in effect, declaring ownership of them? At what age would we declare that person sovereign? Perhaps it would be decided to leave the chips in place to aid in census taking or some other benign purpose.

We could conceivably have the beginnings of a whole society of people registered by some agency and traceable anywhere in the world. Perhaps we could find dead-beat fathers; perhaps we could all be monitored for our movements and associations.

Suppose those chips were further enhanced to receive? What kind of messages might be programmed into an individual? And from whom?

This may sound like paranoia or science fiction, but the technology isn't that far away. Implanting sounds like a good idea when we're talking about dogs. What will we say when it's suggested for humans?

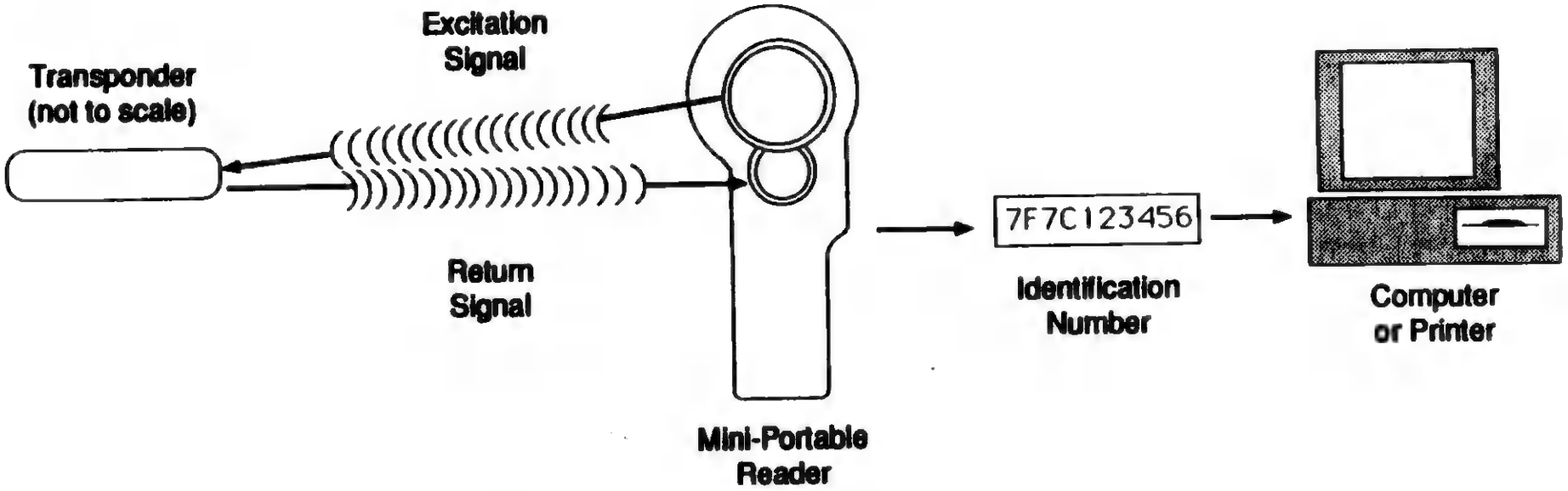
Linda Stearns
Tustin

DESTRON/IDI

- Proven technology
- Solid customer base
- Experienced management
- Exciting growth potential
- Low-cost manufacturing capability

How Dual-Coil Technology Works

In traditional passive radio frequency identification systems, a transponder passing within range of a reader is powered by the excitation signal emitted by the coil in the reader. The same coil then picks up the low-power signal returned by the transponder. With Destron/IDI's new advanced dual-coil technology, two different coils are used, one for sending the excitation signal and a second one for picking up the transponder's return signal. This allows the second coil to be tuned specifically to the return signal frequency. The result is greater receiver sensitivity and improved read range.



DESTRON/IDI

Electronic ID Background

Most people are familiar with the laser scanning of bar codes in supermarkets to identify goods at the check-out line, and bar codes used by the postal service to automatically identify packages and letters. Destron/IDI's electronic identification system provides essentially the same capability for the identification of animals, where an ID system using labels is not practical.

There are two basic differences between electronic identification and bar code technology: how the ID number is read and how it is stored. Electronic identification uses a common low-power radio signal to read an ID number stored in a tiny electronic circuit rather than laser light to read a label. Electronic ID based on these radio signals is also referred to as radio frequency identification, or RFID. These low-frequency radio waves, unlike light, can penetrate all solid objects except those made of metal. Therefore, use of electronic ID allows the number to be stored inside the animal, where it is permanent and is not subject to being lost or altered, or becoming worn and unreadable like an external dog tag.

The tiny electronic device used to store the electronic ID number is called a transponder. Destron/IDI's transponders come in three sizes (see Figure 1), the smallest of which is about the size of an uncooked grain of rice. All of the transponders are easily injected into an animal, similar to the delivery of ordinary vaccines. The device then remains with the animal for life, where it provides the animal's unique ID number any time it is scanned by a compatible electronic ID reading system.

Most Destron/IDI reading systems, or scanners, send a signal using a frequency of 125 kHz, much lower than the frequencies used in AM medium-wave broadcasting. The power of the radio signal sent by the scanner is less than one one-thousandth of a watt (one milliwatt), which is far less than the power transmitted by a child's two-way radio (walkie-talkie). Destron/IDI scanners are approved by the FCC in the U.S. and by similar organizations in other countries (PTT's) to operate as low-power radio-frequency devices not requiring site licensing.

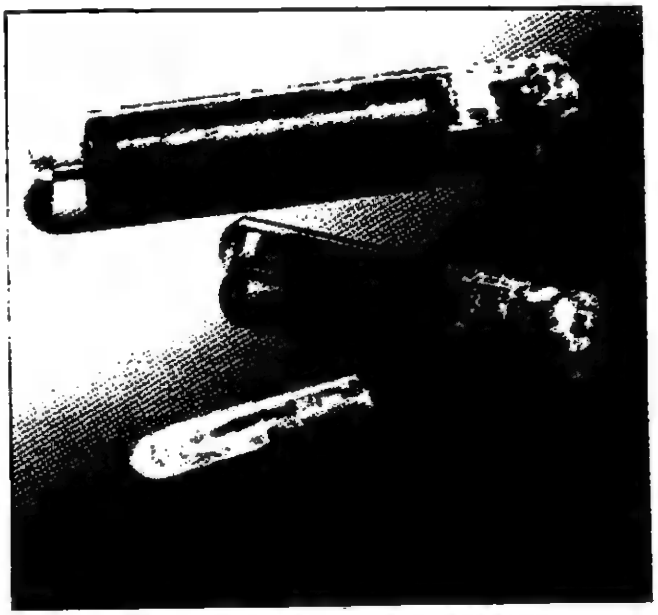


Figure 1. Destron/IDI transponders

Destron/IDI's transponders are passive devices, meaning that the transponder carries no battery and remains inactive most of the time. The transponder's tiny electronic circuit is energized by the low-power radio beam sent by a compatible reading device. The transponder sends the ID number as a radio signal back to the scanner, which then decodes the number and displays it on a small screen similar to that on an electronic calculator. Since the transponder contains no battery there is nothing to wear out.

Figure 2. Microchip on human finger

The transponders are cylindrical, with the smallest measuring 11 mm in length and 2.1 mm in diameter. Inside are only three components. The first is a computer microchip (custom integrated circuit) which is shown in Figure 2 on a human finger. This microchip contains the unique ID number assigned to the transponder, and all of the electronic circuitry necessary to send the number to the scanner when it receives the scanner radio signal.

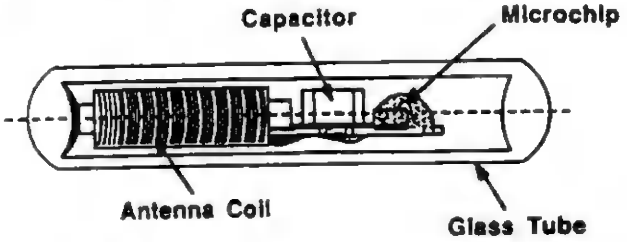


Figure 3. Injectable transponder configuration

The second component of the transponder is a coil of copper wire wound around a ferrite (iron) core. This functions as a tiny radio antenna to pick up the signal from the scanner, and to send the encoded ID number from the microchip back to the scanner. The third component is a capacitor used for tuning. The internal structure of the transponder is shown in Figure 3.

Each transponder's unique ID number is encoded into it during the manufacturing process. A laser etches this code onto the surface of the microchip prior to transponder assembly and encapsulation in glass. Once the number is encoded it is impossible to alter. Encoding of the number itself uses 35 bits of information which allows 34 billion possible ID numbers.

The outside of the transponder is a soda lime glass which has been specially selected for known biocompatibility. During manufacture, this glass is hermetically sealed so it is not possible for any moisture from the host animal's body fluids to reach the electronics inside.

While glass is biochemically inert it is also very smooth, which, in rare instances could allow the transponder to move around in the animal's body once injected. Therefore, small transponders are available with one end sheathed in a polypropylene shell as shown in Figure 4. This coating offers a surface with which fibrous connective tissue begins to bond within 24 hours of the injection. Destron recommends this configuration of the transponder whenever migration is a concern or with subcutaneous (under-the-skin) injections, such as those done in dogs and cats.

In dogs and cats, the transponder is injected in a standard site which is in the scruff of the neck between the shoulder blades (scapula). In horses, the standard injection site is on the left side of the animal in the middle third of the neck, just below the long hairs of the mane. For these injections, each transponder comes pre-packed inside a needle, and this assembly is packaged in a pre-sterilized plastic envelope. Each needle is discarded after one-time use. This prevents the spread of infection, and insures that the needle is factory sharp so as to cause minimum discomfort to the animal.

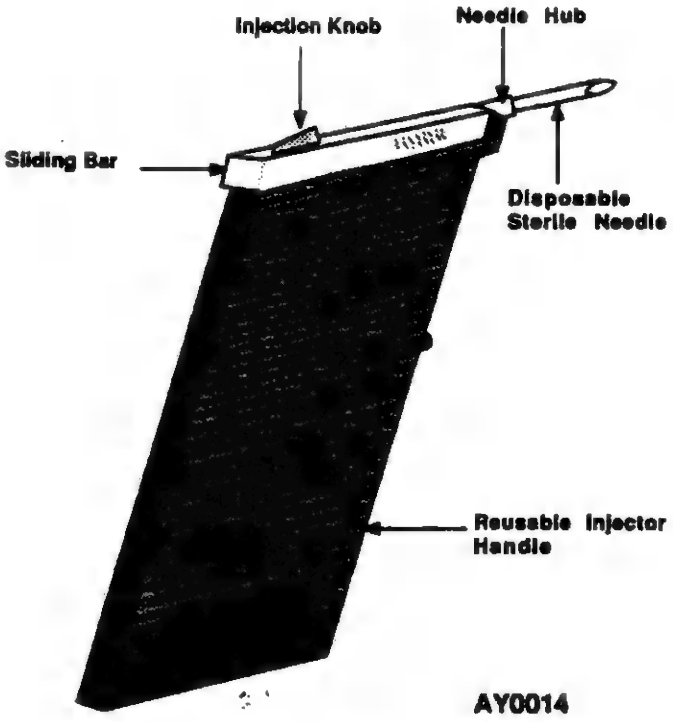
Numerous studies have been performed on a wide variety of animal species to demonstrate the safety of the transponder. These studies have involved mammals, birds, fish, and reptiles which have shown no adverse reactions to the transponder, either biological or behavioral. Many of these studies have been documented in published papers.

While Destron pioneered injectable transponders for animals in 1985, electronic identification technology in general was already well established before that time. Applications included external electronic ID for animals (ear tags, electronic collars, etc.), identification of people for access to buildings or restricted areas and identification of manufactured goods, machine tools, and other items in a factory environment.

Destron/IDI RFID systems are sold worldwide through distributors to the livestock, companion animal, laboratory animal, and fish and wildlife markets. More than two million animals have been injected with transponders manufactured by Destron/IDI. The Company is headquartered in Boulder, Colorado and is publicly traded on the NASDAQ and Vancouver stock exchanges.

Figure 4. Photomicrograph of transponder with antimigration tip

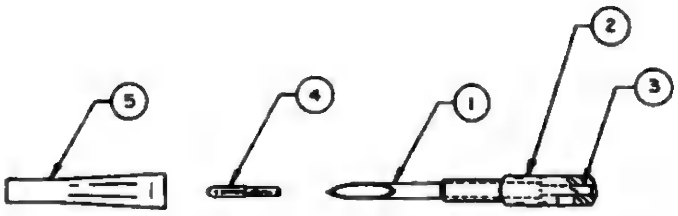
Injection System
Model AY0014



Description

The Lifechip™ Transponder Injection System consists of a reusable injector handle and a sterile needle assembly which contains a small injectable transponder. The system is designed to maximize convenience and ease of use while minimizing discomfort at the injection site.

Injecting a small transponder with the Lifechip system ensures that the animal can be identified electronically with its own unique, ten-digit alphanumeric code. The code is programmed into the injectable transponder, which is packaged as part of the sterile needle assembly. The identification code is easily read with a compatible reader manufactured by Destron/IDI.



TX1412L - Transponder Assembly

1. Stainless steel needle
2. Polypropylene needle guide
3. Polypropylene drive pin
4. Lifechip transponder with anti-migration tip
5. Protective plastic sheath
6. Not shown - sterile pouch and barcode label

Features

- Proven technology has been in use for five years, with over a half million small animals injected.
- Light-weight, pistol-grip style allows easy control of needle insertion.
- Pre-packaged sterile needle including small injectable transponder eliminates the need for manual sterilization.
- Sterility is maintained because injector push-rod does not directly contact sterile transponder.
- Small injectable transponder comes with a proven, patented anti-migration tip.
- Reusable injection handle is made from durable, easy-to-clean material.
- Injection handle is designed for both right-handed and left-handed users.
- Provides positive, permanent identification for the life of the animal.
- Transponder assembly supplied sterile with barcode printout of the unique number. One assembly per sterile pouch.

Specifications

Needle assembly dimensions:
1.86" by .288" (47.34 mm by 7.32mm)

Transponder dimensions: 0.43" by 0.08" (11 mm by 2.1 mm)

Injector needle size: Approximately 12-gauge

Needle assembly temperature:
-40° to 158° F (-40° to 70° C) operating and storage

Transponder housing: Bio-compatible glass with a polypropylene anti-migration cap.

Transponder operating frequency: 125kHz

DESTRON/IDI

Handi Reader
Model HS5600L1

Features:

- **Low Cost.** The Handi Reader is the most economical reader on the market.
- **Easy to Use.** The push of a button turns the power on and begins the scanning function.
- **Portable.** The entire one-piece unit weighs just over one pound (0.65 kg) and is easily carried and operated with one hand.
- **Replaceable Batteries.** You'll never need to wait for the Handi Reader to recharge - it uses two standard 9-volt batteries that are easy to replace.
- **Durable.** A tough, water-resistant outer shell makes the Handi Reader perfect for indoor or outdoor use.
- **Automatic Shutdown.** The Handi Reader automatically shuts down when left unused for one minute, prolonging battery life.

Product Description:

The Destron/IDI Handi Reader is a compact, one-piece device that reads identification numbers from compatible radio frequency identification (RFID) tags. Destron/IDI's RFID tags are injectable transponders used for the identification of dogs, cats, birds, horses and other companion animals.

The Handi Reader energizes passive transponders with an excitation signal of 125 kHz, decodes the return signal and displays the identification number on a 16-character liquid-crystal display window. To ensure efficient operation, the reader also emits a beep and flashes a red LED to signal that a compatible transponder has been detected.

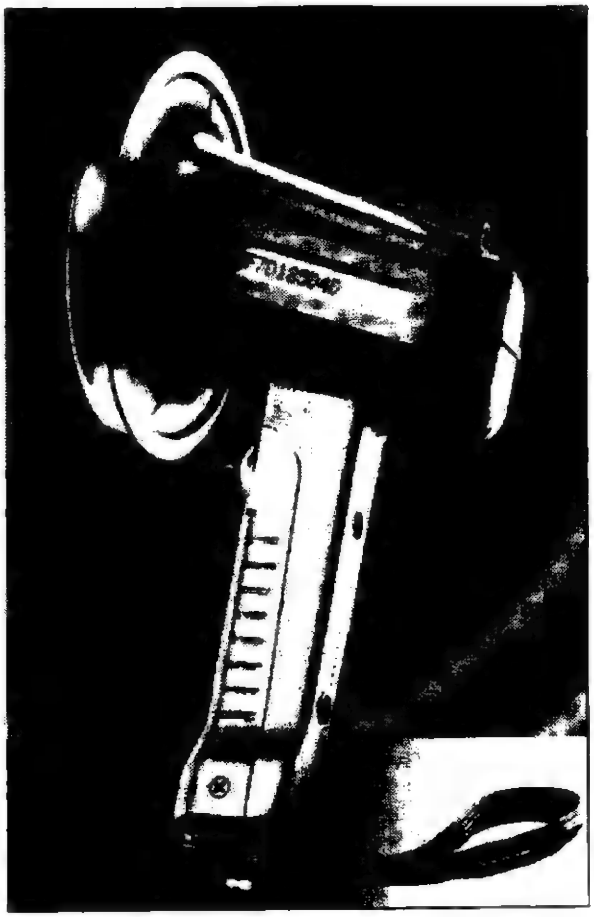
The microprocessor-based Handi Reader incorporates advanced surface-mount components and is powered by standard, replaceable 9-volt batteries.

Specifications:

Typical read distances:

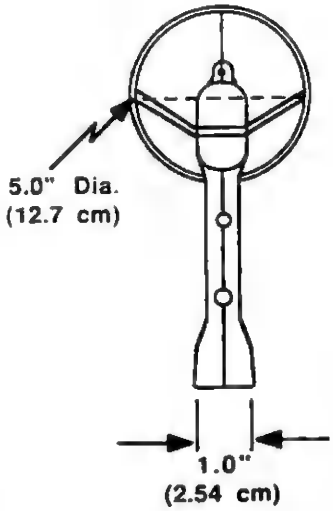
TX1400L1	small	3.00" (7.62 cm)
TX1410L1	medium	4.50" (11.43 cm)
TX1408L1	large	6.00" (15.24 cm)

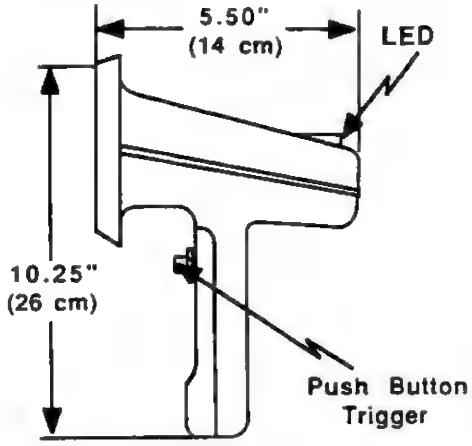
(in a benign noise environment with optimal orientation of transponder to reader at 77° F (25° C))



Display:	16-character LCD 0.20" (0.52 cm) character height
Batteries:	Two 9-volt alkaline (500 minimum readings)
Operating ranges:	
Temperature	32° to 122° F (0° to 50° C)
Humidity	10% to 90% (noncondensing)
Shock	20 g
Dimensions:	10.25" x 5.00" x 5.50" (26.04 cm x 12.70 cm x 13.97 cm)
Weight:	1.43 lbs (0.65 kg)
Operating frequencies:	
Scanner exciter	125 kHz
Transponder response	12.5 kHz and 15.63 kHz
Read speed:	120 msec maximum

Specifications:





Warranty:

Destron/IDI products are warranted against defects in materials and workmanship, under normal use and service, for one (1) year from the date of shipment. This warranty will not apply if adjustment, repair, or parts replacement is required because of accident; neglect; misuse of electric power, air conditioners, or humidity control; damage during transportation; or causes other than ordinary use. This warranty is void if seals to the electronic components are not intact. Destron/IDI's sole responsibility under this warranty shall be, at its option, to either repair or replace any product which fails during the warranty period.

How to order:

Order the Handi Reader Model HS5600L1 from your Destron/IDI distributor. The Handi Reader comes with two 9-volt batteries, a transponder test piece, and a complete set of operating instructions.

For more information or to comment on Lifechip products manufactured by Destron/IDI, contact your local distributor listed below:

 Specifications subject to change without notice.

DESTRON/IDI

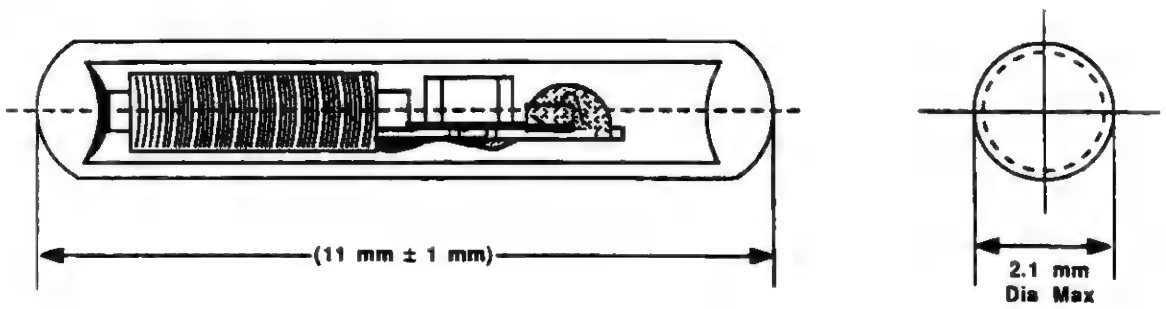
Injectable Transponder
TX1400L
Small Size

Product Description:

The Injectable Transponder is a passive radio-frequency identification tag, designed to work in conjunction with a compatible radio-frequency ID reading system. The transponder consists of an electromagnetic coil, tuning capacitor, and microchip sealed in a cylindrical glass enclosure. The chip is pre-programmed with a unique ID code that cannot be altered; over 34 billion individual code numbers are available. When the transponder is activated by a low-frequency radio signal, it transmits the ID code to the reading system.

Although specifically designed for injecting in animals, this transponder can be used for other applications requiring a micro-sized identification tag.

Specifications:



Dimensions (nominal): 11 mm by 2.1 mm (0.43" by 0.08")

Housing: Bio-compatible glass

Average weight: 0.06 g (0.002 ounces).

Temperature range: -40 to 70°C (-40 to 158°F), operating and storage

Read range with the HS5105L Mini-Portable Reader:
(In a benign noise environment with optimal orientation of transponder and scanner)
Maximum: 10 cm (4")

Read speed: Approximately 1 meter per second

Vibration:
Sinusoidal; 1.5 mm (0.06") peak-to-peak, 10 to 80 Hz, 3 axis
Sinusoidal; 10 g peak-to-peak, 80 Hz to 2 kHz, 3 axis

Injector needle size: About 12 gauge

Operating frequency: 125 kHz

DESTRON/IDI

Injectable Transponder

TX1410L2

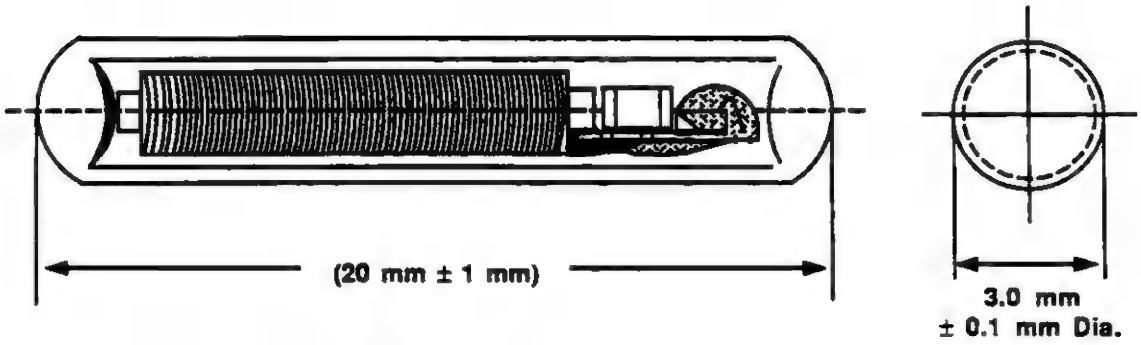
Medium Size

Product Description:

The Injectable Transponder is a passive radio-frequency identification tag, designed to work in conjunction with a compatible radio-frequency ID reading system. The transponder consists of an electromagnetic coil, tuning capacitor, and microchip sealed in a cylindrical glass enclosure. The chip is pre-programmed with a unique ID code that cannot be altered; over 34 billion individual code numbers are available. When the transponder is activated by a low-frequency radio signal, it transmits the ID code to the reading system.

Although specifically designed for injecting in livestock, this transponder can be used for other animal and nonanimal applications.

Specifications:



Dimensions (nominal): 20 mm by 3.0 mm (0.78" by 0.11")

Housing: Bio-compatible glass

Average weight: 0.23 g (0.008 ounces).

Temperature range: -40 to 70°C (-40 to 158°F), operating and storage

Read range with the Model HS5105L2 Mini-Portable Reader:
(In a benign noise environment with optimal orientation of transponder and scanner)

	Typical	Minimum
HS5105L2	22.9 cm (9")	20.3 cm (8")

Read speed: 3 meters per second

Vibration:
Sinusoidal; 1.5 mm (0.06") peak-to-peak, 10 to 80 Hz, 3 axis
Sinusoidal; 10 g peak-to-peak, 80 Hz to 2 kHz, 3 axis

Injector needle size: About 8 gauge (Destron part # 445-0012-00)

Operating frequency: 125 kHz

DESTRON/IDI

Injectable Transponder

TX1408L2

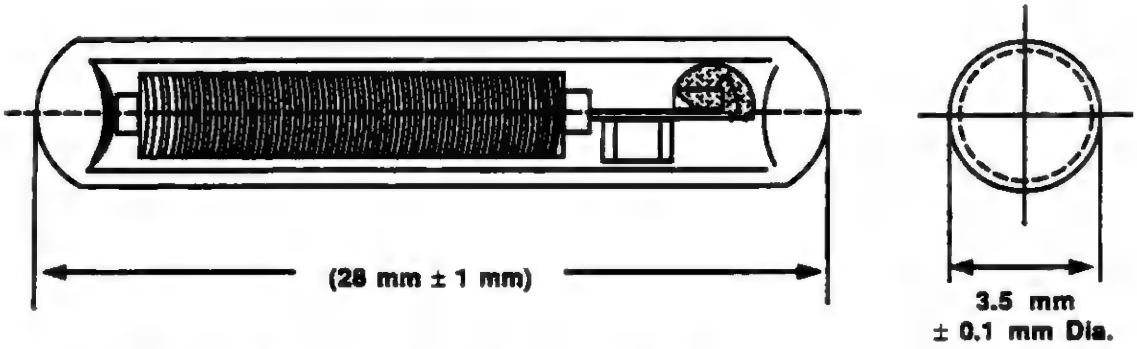
Large Size

Product Description:

The Injectable Transponder is a passive radio-frequency identification tag, designed to work in conjunction with a compatible radio-frequency ID reading system. The transponder consists of an electromagnetic coil, tuning capacitor, and microchip sealed in a cylindrical glass enclosure. The chip is pre-programmed with a unique ID code that cannot be altered; over 34 billion individual code numbers are available. When the transponder is activated by a low-frequency radio signal, it transmits the ID code to the reading system.

Although specifically designed for injecting in livestock, this transponder can be used for other animal and nonanimal applications.

Specifications:



Dimensions (nominal): 28 mm by 3.5 mm (1.10" by 0.14")

Housing: Bio-compatible glass

Average weight: 0.77 g (0.027 ounces).

Temperature range: -40 to 70°C (-40 to 158°F), operating and storage

Read range with the Model HS5105L2 Mini-Portable Reader:
(In a benign noise environment with optimal orientation of transponder and scanner)

	Typical	Minimum
HS5105L2	33 cm (13")	30.5 cm (12")

Read speed: 3 meters per second

Vibration:
Sinusoidal; 1.5 mm (0.06") peak-to-peak, 10 to 80 Hz, 3 axis
Sinusoidal; 10 g peak-to-peak, 80 Hz to 2 kHz, 3 axis

Injector needle size: Approximately 7 gauge (Destron part # 445-0013-00/blunt tip and part # 445-0014-00/sharp tip).

Operating frequency: 125 kHz

DESTRON/IDI

Mini-Portable Reader
Basic Model
HS5105L Series

Product Description:

The Mini-Portable Reader is a compact, one-piece device that reads ID numbers from compatible radio-frequency identification tags. The reader energizes passive transponders with an excitation signal of 125 kHz, decodes the return signal and displays the identification number on its 16-character LCD display. Microprocessor-based Mini-Portable Readers incorporate Destron/IDI dual-coil technology and state-of-the-art surface-mount components.

Basic Model Mini-Portable Readers operate on power supplied by rechargeable batteries and will read about 100 ID codes between rechargings. An overnight charge is sufficient to fully restore battery power. Battery chargers are available in a variety of voltages and plug configurations. Mini-Portable Readers can be ordered in either 1X (120 msec) or 2X (40 msec) read speed models.

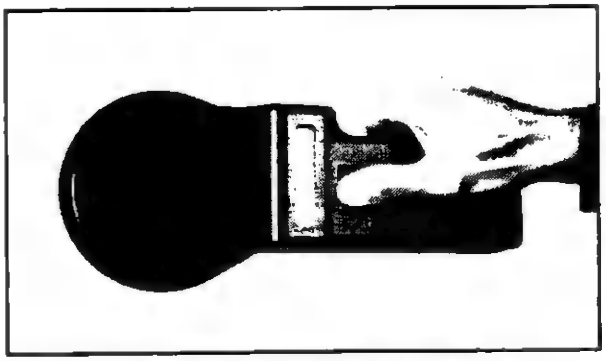
Features:

- **Portability**: Because of its compact and light-weight design, the Mini-Portable Reader can be easily carried into the field, the stable, the abattoir, or anywhere else ID numbers need to be read.

- **Charging Cradle**: Each Mini-Portable Reader comes with a wall-mount Charging Cradle for convenient, out-of-the-way storage and easy battery recharging.

- **Rechargeable battery**: The Mini-Portable Reader comes with a battery charger, which connects to the reader through the Charging Cradle. When you place the reader in the cradle, batteries are automatically charged.

- **Automatic shutdown**: The reader automatically shuts down when left unused for 15 minutes. This feature prolongs the useful life of the batteries.



Destron/IDI Mini-Portable Reader, Basic Model

Specifications:

Minimum read distances: TX1400L: 10 cm (4")
TX1408L1 and TX1408L2: 33 cm (13")
TX1410L1 and TX1410L2: 23 cm (9")
(In a benign noise environment with optimal orientation of transponder to reader)

Display: 16-character LCD
0.52-cm (0.2-inch) character height

Batteries: Two 8.4-volt NiCad
Minimum of 200 recharge cycles
Typical readings per charge: 100

Operating ranges:
Temperature: 0 to 50°C (32 to 122°F)
Humidity: 10 - 90% (non-condensing)
Shock: 20 g

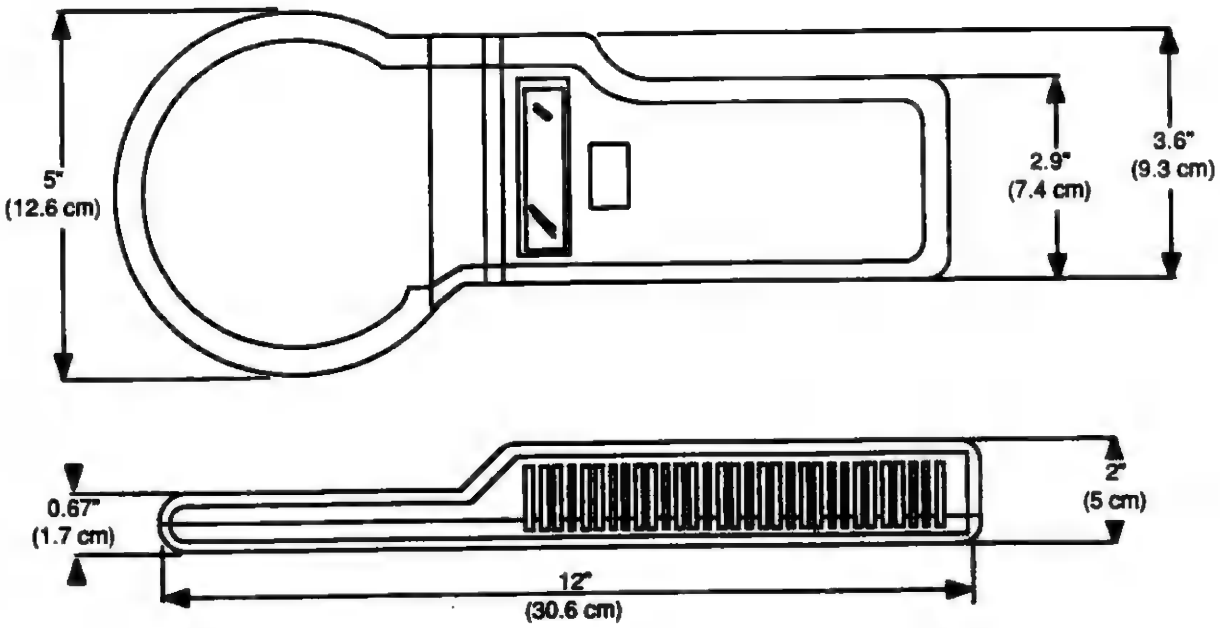
Dimensions: 30.6 cm L by 12.6 cm W by 5 cm H
(12" L by 5" W by 2" H)

Weight: 0.8 kg (1.75 lb)

Operating frequencies:
Scanner exciter frequency: 125 kHz
Transponder response frequencies:
25 and 31.25 kHz (HS5105L2 models)
12.5 and 15.625 kHz (HS5105L1 models)

Reading speed: 120 msec maximum
(HS5105L1 models)
40 msec maximum
(HS5105L2 models)

Specifications:



Warranty:

Destron/IDI products are warranted against defects in materials and workmanship for one (1) year from the date of shipment.

How to Order:

Order the Mini-Portable Reader, Basic Model, from your authorized Destron/IDI distributor. For a list of authorized distributors, call (303) 444-5306.

Model number	Read speed	Power	Power voltage appropriate for
HS5105L10K110	120 msec (1X)	110 VAC, 60 HZ	USA, Canada
HS5105L10K220	120 msec (1X)	220 VAC, 50 HZ	Continental Europe
HS5105L10K240	120 msec (1X)	240 VAC, 50 HZ	United Kingdom
HS5105L20K110	40 msec (2X)	110 VAC, 60 HZ	USA, Canada
HS5105L20K220	40 msec (2X)	220 VAC, 50 HZ	Continental Europe
HS5105L20K240	40 msec (2X)	240 VAC, 50 HZ	United Kingdom

This device involves technology covered by U.S. Patent #4,730,188. Other patents pending.

 Specifications subject to change without notice.

DESTRON/IDI

Mini-Portable Reader
Standard and Extended-Memory Models
HS5105L Series

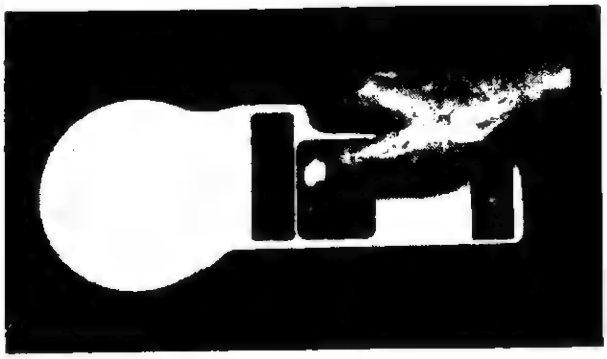
Product Description:

The Mini-Portable Reader is a compact, one-piece device that reads ID numbers from compatible radio-frequency identification tags. The reader energizes passive transponders with an excitation signal of 125 kHz, decodes the return signal and displays the identification number on its 16-character LCD display. Microprocessor-based Mini-Portable Readers incorporate Destron/IDI dual-coil technology and state-of-the-art surface-mount components.

In addition to displaying the ID code, the Mini-Reader can store ID codes in memory or transmit ID codes to a computer or printer via an RS232 port. Standard Memory models contain 8 kilobytes of random access memory (RAM) which allows storage of 1478 codes. Extended Memory models contain 32 kilobytes of RAM for storage of up to 6393 ID codes.

Software features include the ability to screen out a duplicate scanning of the same transponder, the ability to measure the level of an interfering signal, the option of displaying a scanned number in decimal or hexidecimal format, a battery level indicator and a Power Saver mode which conserves battery life. The Mini-Portable Reader can also be wired to a computer and operated from a remote location.

Mini-Portable Readers operate on AC line (mains) power or power supplied by rechargeable batteries that will read about 1500 ID codes between rechargings. An overnight charge is sufficient to fully restore battery power. Battery chargers are available in a variety of voltages and plug configurations. Mini-Portable Readers can be ordered in either 1X (120 msec) or 2X (40 msec) read speed models.



Destron/IDI Mini-Portable Reader

Features:

- **Portability**: Because of its compact and lightweight design, the Mini-Portable Reader can be easily carried into the field, the stable, the abattoir, or anywhere else ID numbers need to be read.

- **ID code storage:** Standard Memory readers can store up to 1478 ID codes while Extended Memory models store 6393. This feature gives you the ability to read ID codes in the field, store them in reader memory and process them later after you've returned to the office.

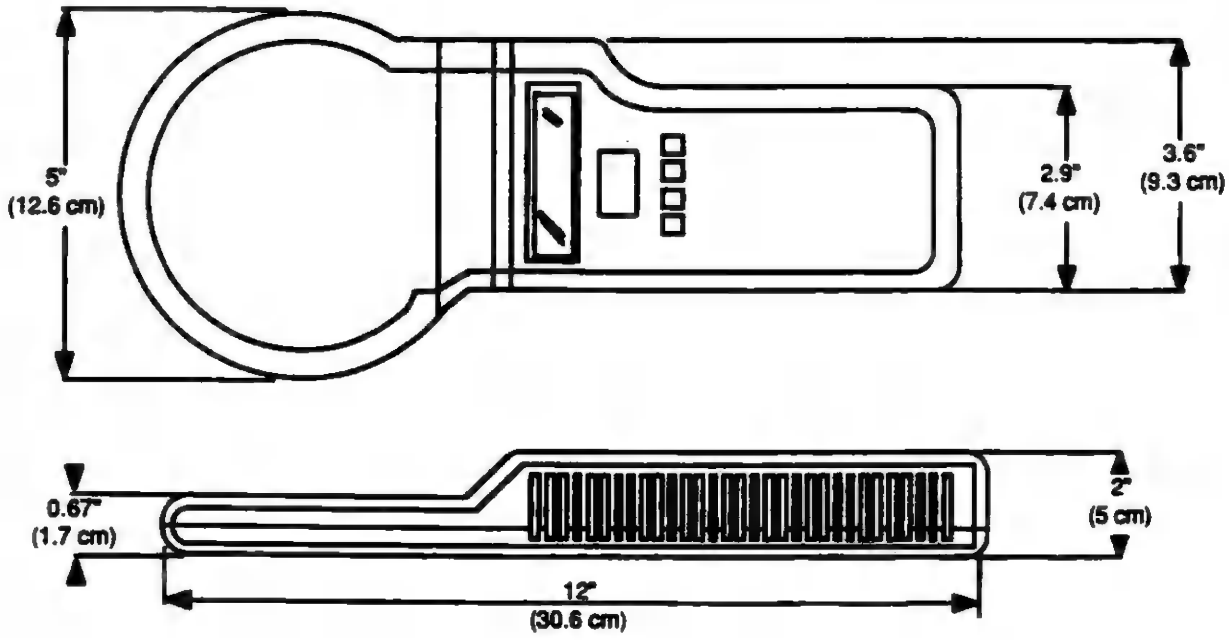
- **Computer/printer interface capability:** By sending data via its RS232 port, the Mini-Portable Reader can transfer ID codes to a variety of external computers and printers.

- **Rechargeable battery**: The Mini-Portable Reader comes with a battery charger, which connects to the reader through the wall-mount stand. When you place the reader in the stand, batteries are automatically charged. A back-up battery maintains information stored in memory even if the rechargeable battery is fully discharged.

Features (continued):

- **Charging Cradle**: Each Mini-Portable Reader comes with a wall-mount Charging Cradle for convenient, out-of-the-way storage and automatic battery recharging.
- **Water and shock resistant:** The Mini-Reader is designed to withstand almost any adverse conditions found in barnyards, feedlots and abattoirs.
- **Audible read indicator:** A beeper sounds to let you know an ID number has been successfully read.
- **Duplicate screening:** Mini-Reader software allows you to screen out duplicate scannings of the same transponder and to store only unique ID codes in reader memory.
- **Automatic shutdown:** The reader automatically shuts down when left unused for 15 minutes. This feature prolongs the useful life of the batteries.

Specifications:



Specifications:

Operating frequencies: Scanner exciter frequency: 125 kHz
Transponder response frequencies: 25 and 31.25 kHz (HS5105L2), and 12.5 and 15.625 kHz (HS5105L1)

Reading speed: 120 msec maximum for the HS5105L1 model series
40 msec maximum for the HS5105L2 model series

Minimum read distance: TX1400L: 10 cm (4")
TX1408L1 and TX1408L2: 33 cm (13")
TX1410L1 and TX1410L2: 23 cm (9")
(In a benign noise environment with optimal orientation of transponder to reader)

External outputs: RS-232 serial, D-9 connector (female). Selectable baud rate, parity, word length and stop bits

Display: 16-character LCD, 0.52 cm (0.2 inch) character height

Memory size: 8K standard (1478 ID codes), 32K extended memory (6393 ID codes)

Batteries: Two 6-volt, sealed, lead-acid. Minimum of 200 recharge cycles
Typical readings per charge with Power Saver off: 500
Typical readings per charge with Power Saver on: 1500
(Cycle time of 3 seconds on and 8 seconds off)

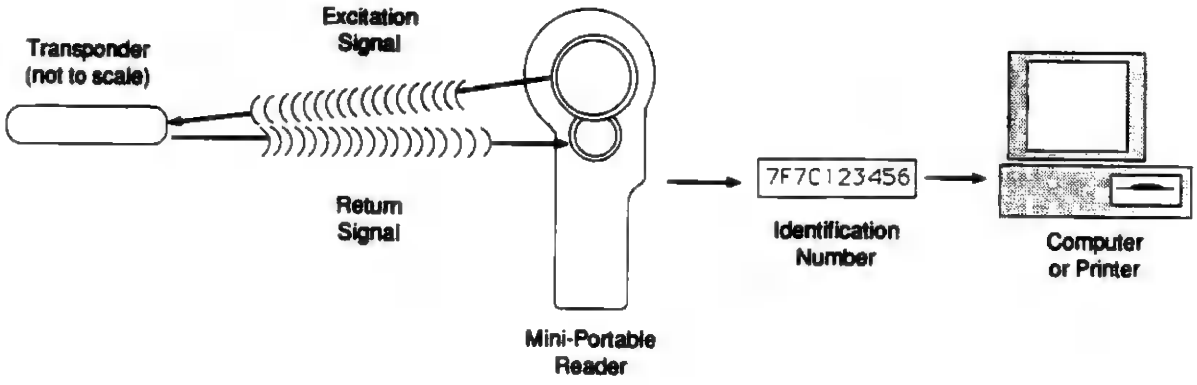
Operating ranges: Temperature: 0 to 50°C (32 to 122°F)
Humidity: 10 - 90% (non-condensing)
Shock: 20 g

Dimensions: 30.6 cm long by 12.6 cm wide by 5 cm high (12" L by 5" W by 2" H)

Weight: 1 kg (2.2 lb)

How Dual-Coil Technology Works

In traditional passive radio frequency identification systems, a transponder passing within range of a reader is powered by the excitation signal emitted by the coil in the reader. The same coil then picks up the low-power signal returned by the transponder. With Destron/IDI's new advanced dual-coil technology, two different coils are used, one for sending the excitation signal and a second one for picking up the transponder's return signal. This allows the second coil to be tuned specifically to the return signal frequency. The result is greater receiver sensitivity and improved read range.



Warranty:

Destron/IDI products are warranted against defects in materials and workmanship for one (1) year from the date of shipment.

How to Order:

Order the Mini-Portable Reader from your authorized Destron/IDI distributor. For a list of authorized distributors, call (303) 444-5306.

Mini-Portable Reader Standard Memory Models , 8K Memory

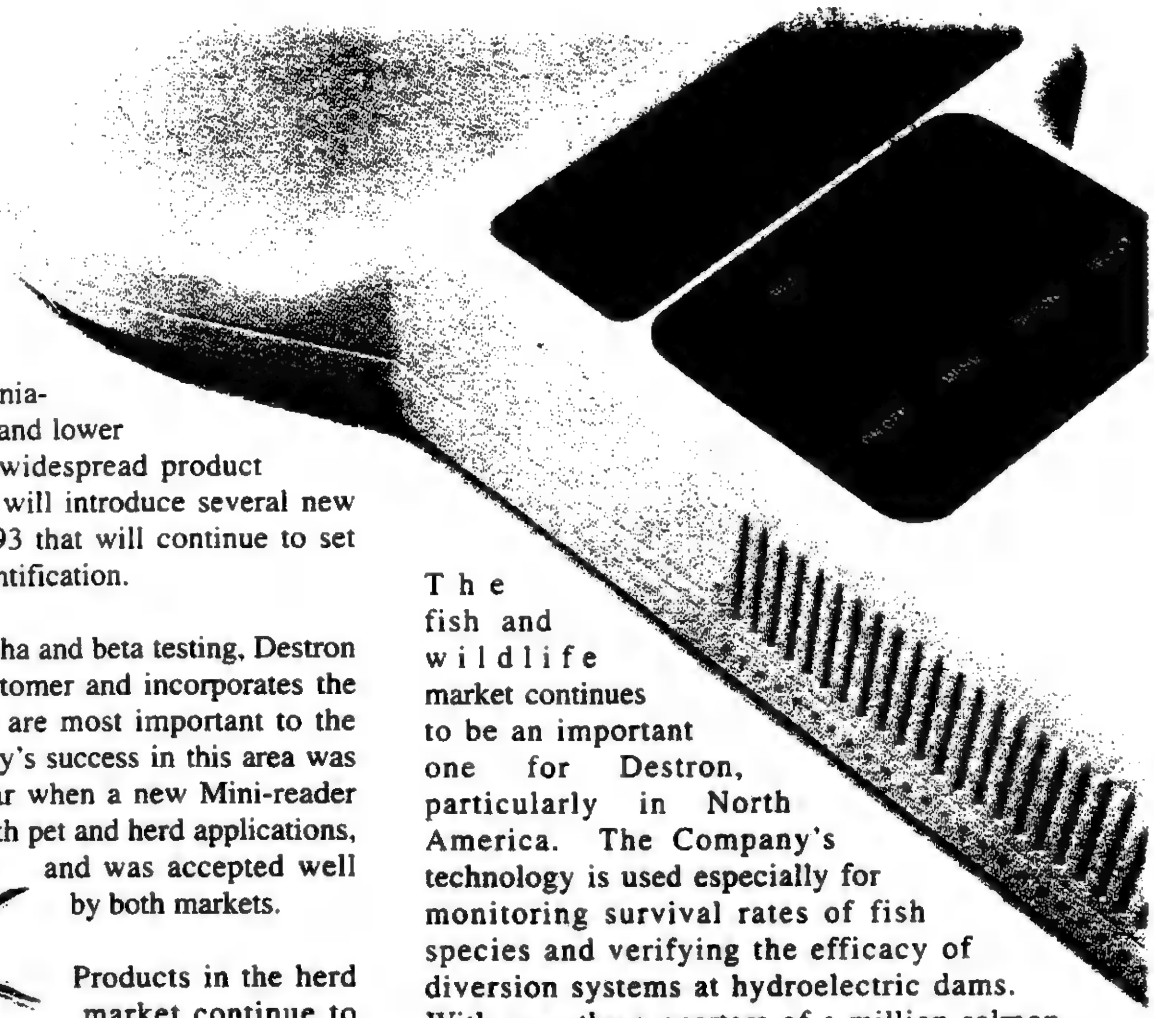
Model #	Read speed	Power	Power voltage appropriate for
HS5105L18K110	120 msec (1X)	110 VAC, 60 HZ	USA, Canada
HS5105L18K220	120 msec (1X)	220 VAC, 50 HZ	Continental Europe
HS5105L18K240	120 msec (1X)	240 VAC, 50 HZ	United Kingdom
HS5105L28K110	40 msec (2X)	110 VAC, 60 HZ	USA, Canada
HS5105L28K220	40 msec (2X)	220 VAC, 50 HZ	Continental Europe
HS5105L28K240	40 msec (2X)	240 VAC, 50 HZ	United Kingdom

Mini-Portable Reader Extended-Memory Models, 32K Memory

Model #	Read speed	Power	Power voltage appropriate for
HS5105L132K110	120 msec (1X)	110 VAC, 60 HZ	USA, Canada
HS5105L132K220	120 msec (1X)	220 VAC, 50 HZ	Continental Europe
HS5105L132K240	120 msec (1X)	240 VAC, 50 HZ	United Kingdom
HS5105L232K110	40 msec (2X)	110 VAC, 60 HZ	USA, Canada
HS5105L232K220	40 msec (2X)	220 VAC, 50 HZ	Continental Europe
HS5105L232K240	40 msec (2X)	240 VAC, 50 HZ	United Kingdom

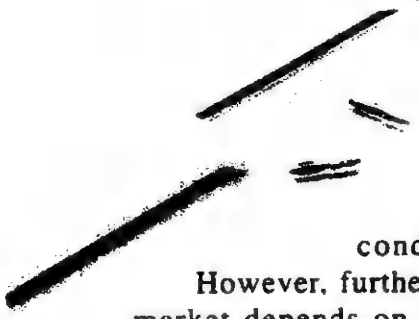
DESTRON/IDI

1992 ANNUAL REPORT



Exciting new products in development bode well for the future. As with most electronics businesses, miniaturization, portability and lower cost are the keys to widespread product acceptance. Destron will introduce several new products in fiscal 1993 that will continue to set the pace in animal identification.

Through extensive alpha and beta testing, Destron listens to the end customer and incorporates the product features that are most important to the market. The Company's success in this area was demonstrated last year when a new Mini-reader was introduced for both pet and herd applications, and was accepted well by both markets.



Products in the herd market continue to prove themselves in large-scale trials being conducted worldwide. However, further development of this market depends on the evaluation of the technology after long-term studies are completed by each country or industry organization interested in implementing electronic identification. Results to date are encouraging, and Destron continues to participate in over 20 long-term studies in RFID for swine, cattle, sheep and other food producing animals all over the world.

Great strides were made in the pet market this past fiscal year with endorsements of Destron technology coming from the 20,000 members of the Canadian Kennel Club and from the oldest animal welfare agency in the world, the Royal Society for the Prevention of Cruelty to Animals. New products to be introduced in fiscal 1993, as well as an increasing level of promotion to the market, should greatly expand penetration beyond the 5,025 veterinarians and animal agencies currently using Destron technology.

The fish and wildlife market continues to be an important one for Destron, particularly in North America. The Company's technology is used especially for monitoring survival rates of fish species and verifying the efficacy of diversion systems at hydroelectric dams. With over three quarters of a million salmon injected with the Company's PIT tags and installations at four major dams, Destron is the leader by a wide margin in this market.

Animal electronic identification from Destron is revolutionizing the scientific research market. Integrated into a new notebook computer system introduced this year, Destron technology is being used and evaluated by several major scientific research organizations throughout the world. With nine million animals used in toxicology studies every year, this market holds tremendous potential for significant market penetration and revenue growth.

TO OUR FELLOW SHAREHOLDERS

Fiscal 1992 was a year of transition for Destron/IDI as the Company evolved from being a supplier of radio frequency identification (RFID) products in several industries to being a focused supplier of animal RFID products. As with most significant change, this process took place over a period of time and did not happen without some initial cost.

Total revenues for 1992 were lower than expected, and were about 11 percent below revenues for the previous year. A substantial contributor to this decrease resulted from the sale of the Company's industrial and access control businesses to Hughes Aircraft Corporation. Negotiations with Hughes actually began in fiscal 1991 and culminated in the second quarter of fiscal 1992 with the signing of two agreements. The first agreement gave Destron a one-time gain of $3 million for the sale of patents and exclusive licenses to the industrial and access control businesses. The Company has retained the rights to the industrial and access control businesses in the Pacific Rim and continues to pursue a licensing arrangement for those markets. The second agreement established a joint venture between Hughes and Destron to develop and produce automated manufacturing equipment for the high-volume production of animal identification transponders.

The long-term benefits of these arrangements with Hughes are already beginning to be recognized. The strategic shift to a focus on the animal RFID markets is allowing Destron to develop comprehensive, innovative solutions to customers' problems and concentrate on winning major opportunities. Positive signs that Destron is moving in the right direction can be seen in further examination of fiscal 1992 results. Overall sales in the core animal businesses were

up 11 percent, while the European animal business increased 134 percent. Clearly Destron's decision to focus solely on the animal markets is the most significant and exciting change in the history of the Company.

In addition to a strategic shift, the Company continues to improve products and increase the sophistication of marketing efforts so that Destron's position as the world leader in animal RFID can be maintained in the face of growing competition. Key talent was added to the Company in the areas of engineering, operations and marketing. Most recently, a new European Destron office was established to better serve customers and to take advantage of the tremendous potential of this important market.

A significant part of Destron's transformation came in the third quarter when the Company filed with the Securities and Exchange Commission to trade its securities in the United States. In the first quarter of 1993, Destron stock was listed on the NASDAQ national market system. While Destron stock was already traded on the Vancouver Stock Exchange, NASDAQ listing gives the Company added visibility in the United States and increases access to capital markets.

In another bold move to provide innovative solutions to our customers, Destron entered negotiations with Texas Instruments Corporation to jointly develop a worldwide operating standard for RFID of animals. Developing and implementing a worldwide standard paves the way for governments and government agencies to adopt electronic identification without worrying about being locked into a single proprietary technology. These standards should remove one of the last remaining barriers to winning large governmental contracts, and by helping to develop the standards, Destron will remain in the forefront of RFID industry development.

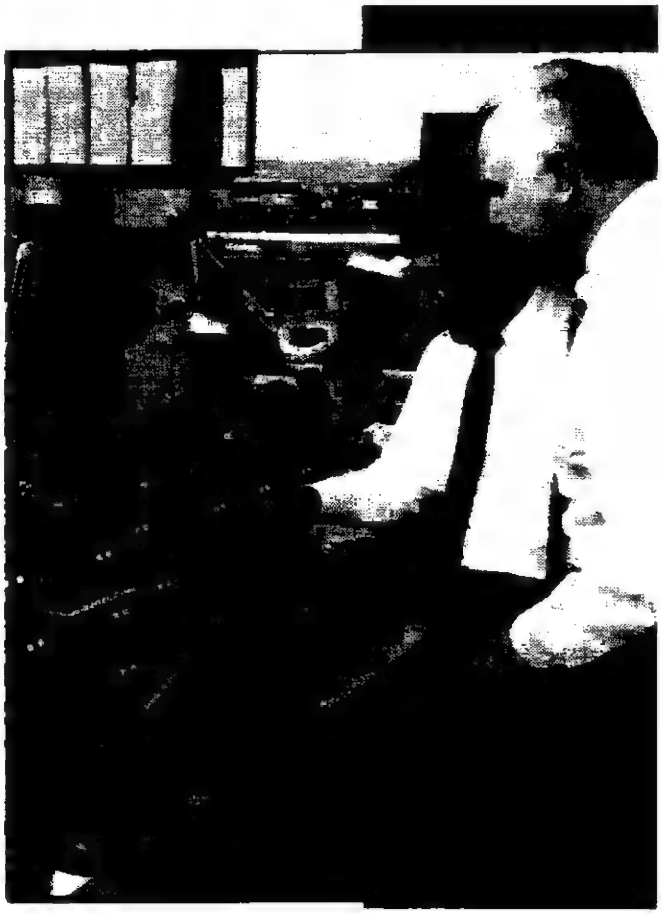
Fiscal 1992 has brought many changes to Destron that bode well for financial recovery and growth in fiscal 1993 and beyond. We thank our employees, customers, suppliers and shareholders for their continued support.♦

Daryl Yurek
Chairman
May 29, 1992

Destron/IDI. . . a solid company with excellent growth potential

Destron/IDI management has carefully controlled the company's growth and nurtured it to profitability. The company now has what it takes to succeed: proven technology; price-competitive, high-quality products; low-cost manufacturing; an established and growing customer base; excellence in engineering; and a well-seasoned senior management team.

As the company continues to grow and its unique technology continues to be recognized, the demand and markets for its products will continue to expand rapidly. Destron/IDI is strategically positioned to meet the challenges of today's markets and is committed to sustaining the efforts needed to be ready for tomorrow's.



An experienced management team provides strong leadership

Daryl F. Yurek, the founder of Destron/IDI. serves as Chairman of the Board and Acting Vice President of Sales and Marketing. His 12 years of experience in the design, development and international marketing of electronic products are the foundation for the entrepreneurial leadership he provides Destron/IDI.

Destron/IDI's President and CEO is James L. Seiler, who has been associated with the company since 1984. His broad financial and managerial knowledge comes from 14 years of corporate planning, finance and operating experience.

Michael Malmer, Vice President of Engineering, has more than 20 years experience in engineering management and the development of high technology products.

Vice President of Operations Eric R. Lunstrum has been with Destron/IDI since 1985. He has extensive experience in materials and manufacturing in high technology environments, both in the U.S. and overseas.

Thomas W. Payne, Vice President of Business Development, has been with the company since 1984. He has been involved in developing new applications for leading edge information processing technology for more than 22 years.

SUMMARY OF FINANCIAL RESULTS

The following selected balance sheet data at February 29, 1992 and February 28, 1991, 1990, 1989, and 1988 and statement of operations data for the years then ended have been derived from the Consolidated Financial Statements of the Company that have been audited by independent accountants. The financial data set forth below should be read in conjunction with the Consolidated Financial Statements, related notes and other financial information included elsewhere within this annual report and "Management's Discussion and Analysis of Financial Condition and Results of Operations."♦

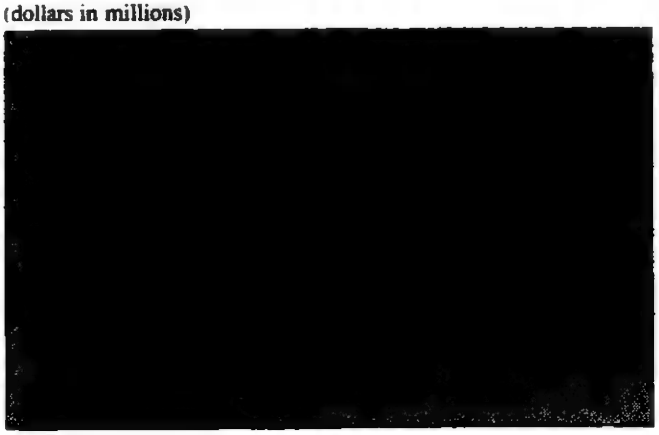
Selected Financial Data

(in thousands of U.S. dollars except per share amounts)

Five Years Ended February 29, 1992	1992	1991	1990	1989	1988
Total revenue	$ 7,369	$ 8,299	$ 5,722	$ 4,348	$ 2,111
Selling, general and administrative	2,271	2,296	1,598	1,823	2,070
Research and development	864	989	736	537	707
Depreciation and amortization	257	194	138	124	247
Gain on sale of patent rights and exclusive license to Industrial and Access Control business	3,000	--	--	--	--
Write down of notes receivable	--	--	--	--	305
Net income (loss)	$ 2,815	$ 61	$ 328	($ 431)	($2,589)
Net income (loss) per share	$ .45	$ .01	$ .07	($ .12)	($ 2.40)
Weighted average number of common shares outstanding	6,274	5,849	4,813	3,566	1,080*
Working capital	$ 3,138	$ 1,576	$ 1,746	$ 402	($1,485)
Total assets	$ 7,848	$ 5,991	$ 4,701	$ 3,141	$3,447
Long-term debt	$ 119	$ 62	$ 11	$ 121	$ 331
Stockholders' equity	$ 6,918	$ 3,775	$ 2,892	$ 1,812	$ 312

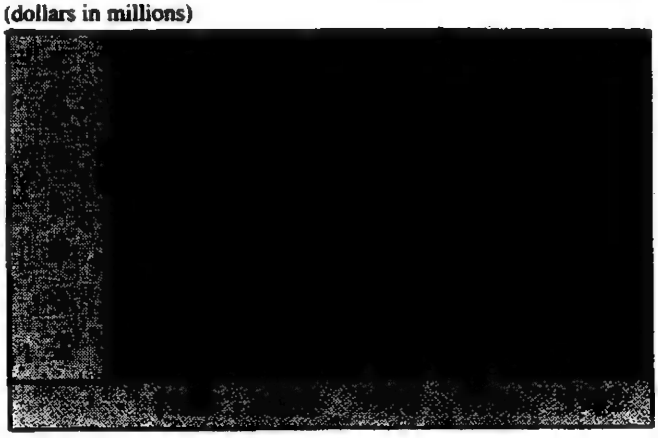
* Adjusted for 5-for-1 reverse split effected April 22, 1988

(dollars in millions)



Stockholders' Equity

(dollars in millions)



Working Capital

CORPORATE INFORMATION

Board of Directors

Daryl Yurek
Chairman of the Board and Secretary
Destron/IDI, Inc.

James Seiler
Director
Destron/IDI, Inc.

Herb Marshall
President
Anitech Identification Systems, Inc.
Manufacturer/Distributor-
Animal Identification Products

James McAusland
Director of Bard Silver Mines
President and Owner
A & E Concrete Ltd.

Alphons P.J.M.M. van der Stee
Former Minister of Agriculture
& Fisheries & Finance
for the Netherlands

W.D. Cameron White
Barrister & Solicitor

Corporate Officers

Daryl Yurek
Chairman of the Board,
Corporate Secretary

Mark McDade
Vice President - Marketing & Sales

Richard D. Kelley
Vice President and
Chief Operating Officer

Robert C. Stewart
Vice President - Engineering

Rick Lunstrum
Vice President - Operations

Michael D. Corrigan
Corporate Controller,
Assistant Secretary

Auditors

Deloitte & Touche
Toronto, Ontario, Canada

Legal Counsel

W.D. Cameron White
Vancouver, B.C., Canada

Davis, Graham & Stubbs
Denver, CO, USA

Stock Exchange

Vancouver Stock Exchange
Trading Symbol: DID.V
NASDAQ
Trading Symbol: DIDIF

Bankers

Norwest Bank Minnesota, N.A.
Minneapolis, MN, USA

Transfer Agent

Montreal Trust
Vancouver, B.C., Canada

Corporate Office

2545 Central Avenue
Boulder, CO, 80301 USA

Institutional Investors

Texas Venture Partners
Intermountain Technology Ventures
Wasatch Advisors, Inc.

Quarterly Stock Prices

(In Canadian Dollars)

	Fiscal Year 1992		Fiscal Year 1991	
	High	Low	High	Low
First Quarter	$8.88	$4.60	$4.50	$3.60
Second Quarter	7.25	3.90	7.00	3.60
Third Quarter	4.95	3.75	6.00	3.95
Fourth Quarter	8.00	3.80	6.13	4.50

Destron/IDI trades on the Vancouver Stock Exchange in Canada, and on the NASDAQ National Market System in the United States. The above quotes represent closing prices on the Vancouver Stock Exchange and were provided by the Vancouver Stock Exchange Listing Department. As of April 28, 1992, there were 144 shareholders of record, 96 of which are U.S. residents.

Form 10-K

A copy of the Company's annual report to the Securities and Exchange Commission on Form 10-K is available without charge upon written request to Investor Relations, Destron/IDI, 2545 Central Avenue, Boulder, Colorado, 80301.

Annual Meeting

The annual meeting of the shareholders will be held at 1:00 p.m. on Friday, July 31, 1992, in the Aspen Room at the Four Seasons Hotel, Vancouver, British Columbia, Canada.

AVID

Advanced micro-electronic technology has enabled AVID to develop a system that provides precise, secure and permanent animal identification.

The "**AVID** Animal Identification System" utilizes its own unique and patented* technique, based on radiowave communication, to identify animals on demand.

The "**AVID** Animal Identification System" is comprised of the following two components:

■ AVID IDENTITY TAG

Passive ..... No power supply to replace or cause harm to animals.

Small ..... About the size of a grain of rice.

Simple ..... Standard injection procedure implants the identity tag quickly and safely. No anesthesia is required or recommended.

Safe ..... The micro-electronic device is encapsulated within a proven bio-compatible glass.

Reliable ..... Accident or injury to the animal will not prevent the reading of the identity tag.

Unique ..... Each identity tag is manufactured and programmed under computer control to insure against duplication of I.D. codes. No two animals would ever have the same number.

Unalterable ... Once implanted, the identity tag is virtually impossible to retrieve. Surgical removal, using the most advanced radiograph techniques available, is extremely difficult. The number can never be altered.

■ AVID IDENTITY TAG READER

- Generates a low energy radio signal that energizes the identity tag to transmit its unique number.
- The received number is displayed on a Liquid Crystal Display (LCD) in an easy-to-read format.
- Reading time is measured in "Milliseconds".
- Can transmit via a standard RS-232 interface to a computer supporting custom applications.
- Manual, Remote or Computer controlled operational capability.
- Battery powered using dual C-cell batteries or 110/220 volt AC adapter.
- Compact and lightweight. Total unit weighs less than two pounds. AVID's intelligent and thoughtful design has produced an identity tag reader that is practical for use in both field and clinic environments.

AMERICAN VETERINARY IDENTIFICATION DEVICES

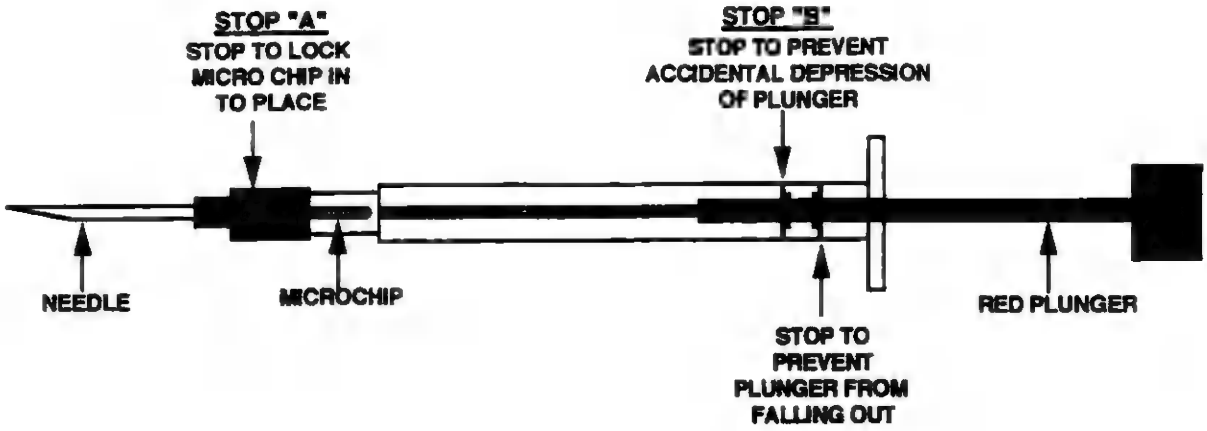
"DEDICATED TO PROVIDING EXCELLENCE IN RESPONSIBLE ANIMAL IDENTIFICATION"

*AVID holds U.S. Patent Number 4,333,072

AVID®

AVID MICROCHIP IDENTIFICATION HIGHLIGHTS

1. **AVID** was incorporated in 1985.
2. For the first six years, **AVID** was in research, development, and design of our animal identification system.
3. Manufacturing and marketing commenced in 1991.
4. To date, over one million identification tags have been sold.
5. Dogs, cats, birds, horses, and exotics have been safely identified with the **AVID Microchip**. The value of implanted animals is well over $100,000,000.00
6. The **AVID** microchip was chosen as the official identifier for all dogs in the Iditarod race.
7. Hundreds of shelters are scanning impounded animals for the **AVID** microchip. Pets are being returned home!
8. In May 1992, **AVID** entered into an agreement with the California Veterinary Medical Association. Under the terms of the agreement the CVMA is officially backing up AVID's data. The CVMA currently has a stand alone computer system to certify that critical identification information will always be accessible. This is a valuable and required safeguard provided by veterinarians for the benefit of your patients and clients.
9. This year **AVID** is pleased to introduce four additional products: *the ACO Reader, the Industrial Reader, the PSION Data Logger, and SUDS* (Single Use Disposable Syringe).
10. In addition to the expanding family of identification products offered by **AVID**, the product line is rounded out by well designed and versatile accessories and peripherals to support your needs in this growing market.



HOW TO USE THE AVID "SUDS"
(SINGLE USE DISPOSABLE SYRINGE)

"SUDS" come packaged from the factory in such a manner that the sterile microchip is locked into a safety position and cannot slip out of the needle until you are ready to use it. If you *VERY GENTLY* push on the plunger, you will feel resistance assuring you that the safety **Stop B** has not been broken.

PROCEDURE:

1. Scan the microchip through the sterile package.
2. Open the sterile package by peeling it apart. *(Keep peel off labels on back of package for your records.)*

   Note: The loaded microchip is positioned at the end of the red plunger (where the syringe barrel begins to narrow and meets the black hub of the needle). The microchip is kept in this position by **Stop A**.
3. Make sure the needle is firmly in place on the syringe.
4. Remove the protective cap from the needle.
5. Free the red plunger from **Stop B** by slowly and gently applying pressure on the end of the plunger until you feel it give and see the microchip move forward. Now you are ready to implant.

   Note: The microchip is secured in the syringe by **Stop A** as long as the microchip is visible. If the microchip is not visible, it is in the needle; keep the needle pointed upwards to prevent accidental loss.
6. Proceed with a standard aseptic injection procedure to deliver the microchip. Please make sure the injection site is "the standard site" for the animal being identified.

There are over 22,000,000 animals put to sleep each year!

Don't let your pet become a tragic statistic.

Identify your pet today with the Avid Microchip.

Your pet belongs at HOME

You want your pet home

Your pet wants to be home

Your Veterinarian wants your pet home

Your animal shelter wants your pet home

The Avid Microchip and PETtrac can bring your pet home

Thanks to the
Avid Microchip
and our
Animal Shelter

Identify your pet today

Don't let your pet leave home without it!

For details ask your Veterinarian or **CALL 1-800-336-AVID**

BUSINESS REPLY MAIL

FIRST - CLASS MAIL PERMIT NO. 31 NORCO, CA

POSTAGE WILL BE PAID BY ADDRESSEE

PETtrac
(Member of AVID Group)
3179 Hamner Ave., Suite 5
Norco, CA 91760-9972

NO POSTAGE NECESSARY IF MAILED IN THE UNITED STATES

A Simple Injection Means A Lifetime of Protection

- Statistics show 1 out of 3 family pets will be lost. Unfortunately only 10% of lost pets are identified.
- If you have ever lost a pet you know what that means... *pain, worry, expense...*
- Veterinarians agree that the Avid Microchip is the identification method of choice. *A simple and safe injection gives your pet permanent identification!*

Don't let your pet leave home without it!

PETtrac

PETtrac is a national computerized recovery network founded to expedite the return of lost or stolen pets to their rightful owners. Once your pet is identified with the Avid Microchip you are eligible for membership.

- one-time $35 lifetime membership.
- members register every pet, identified with an Avid Microchip, that you ever own... *at no additional charge.*
- toll free number 1-800-336-AVID

MOISTEN AND FOLD

PETtrac APPLICATION FORM

To enroll by mail - fill out and sign application. Enclose correct payment (DO NOT SEND CASH) Mail in postage paid envelope.

DETACH MOISTEN AND FOLD

Membership Information

❑ Already a member - number _____

❑ New member ❑ Information Change

Owner Last Name _____

First Name _____

Address _____

City _____

State _____

Zip _____

Phone Home _____

Phone Work _____

FAX _____

DETACH MOISTEN AND FOLD

Alternate contact

Name _____

Address _____

City _____ State ____ Zip _____

Phone ( ) _____

Veterinarian/Implanter Information

DVM Name _____

Facility _____

Address _____

City _____ State ____ Zip _____

Phone ( ) _____

- One lifetime fee of $35.00
- Covers all implanted pets you ever own
- Special military rates available

MOISTEN AND FOLD

Pet Information - Pet #1

Implant ID# _____

(Please check for accuracy)

Pet's name _____

Dog ❑ Cat ❑ Bird ❑ Horse ❑ Other____

Male ❑ Female ❑ Neut/Spay ❑

Age_____Yrs. Weight_____lbs.

Breed_____Color_____

Markings_____

Medication_____

Other data_____

Pet Information - Pet #2

Implant ID# _____

(Please check for accuracy)

Pet's name _____

Dog ❑ Cat ❑ Bird ❑ Horse ❑ Other____

Male ❑ Female ❑ Neut/Spay ❑

Age_____Yrs. Weight_____lbs.

Breed_____Color_____

Markings_____

Medication_____

Other data_____

For Additional Pets, Attach Separate Sheet

Fee: $35.00 Lifetime membership fee.

Covers every implanted pet you ever own.

Payment ❑ Check or money order

Charge my

❑ VISA ❑ Mastercard ❑ Discover

❑ American Express

Card#_____

Exp Date_____

Signature_____

1-800-336-AVID FAX 909-737-8967

trovan
ELECTRONIC IDENTIFICATION SYSTEMS

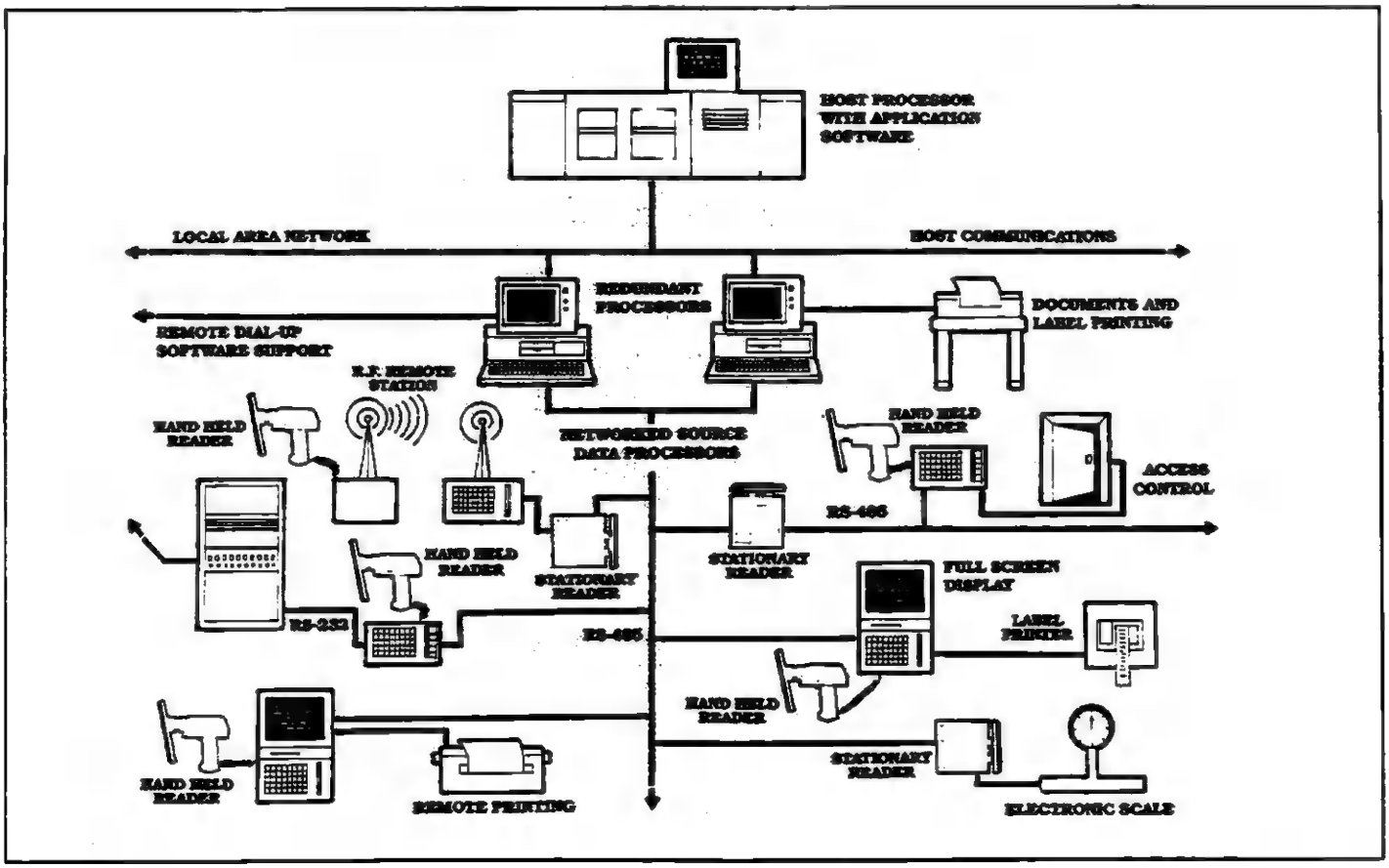
Passive Transponder System

*The **PTS** (Passive Transponder System) is a new technology which will revolutionize the identification industry, giving it a completely new dimension and opening new areas in the identification of both animate and inanimate objects.*

The passive transponder system will perform tasks for which no acceptable solutions were available until now.
In many applications the passive transponders can replace the bar code system with its many limitations related to the size of the bar code, its reading distance, scan angle, and its usefulness in environmentally adverse conditions.
The size of the passive transponder need be only a fraction of the size of a single bar of a bar code symbol and it may be interrogated by a hand held reader at distances greater than eight inches (some transponders can be interrogated at a distance greater than 3 ft.) regardless of angle of scan, light or environmental conditions.
The principle behind the operation of the system is a **hand held or stationary reader** emitting a low frequency magnetic field which activates the **passive transponder** within its range. The passive transponder has no power source of its own (unlimited lifespan) as it derives the energy needed for its operation from the magnetic field generated by the reader. The transponder may take any form; a miniature glass encapsulated animal implantable, a credit card or a badge or a plastic encapsulated unit available in a variety of sizes and shapes for applications to suit the users needs.
Each individual transponder is given a unique code at the time of its manufacture. Once programmed, the code cannot be altered. The number of possible code combinations is close to one trillion and gives the user of the **PTS** a means of identification with an unmatched degree of security.
The passive transponders, unlike the bar code, are environment independent, will operate submerged in liquids and can be read spherically from any direction, through most materials, except some metals. The only limitation to the operational lifespan of the transponder is the durability of its protective encapsulation.
The activated transponder transmits its unique code to the reader. There, the code is forwarded to a decoder logic for code analysis, is simultaneously displayed on the LCD and stored in the reader memory for immediate or future processing.
Hand held readers, or scanners, serve as an excellent substitute for traditional clipboards and keyboard data entry and collection methods. Primary benefits from using a combination of hand held readers and coded passive transponders include a reduction in the number of clerical errors in recording data; a reduction in labor and paperwork to process the data, faster and more accurate inventory taking; and enhanced efficiency of item or animal tracking/control.

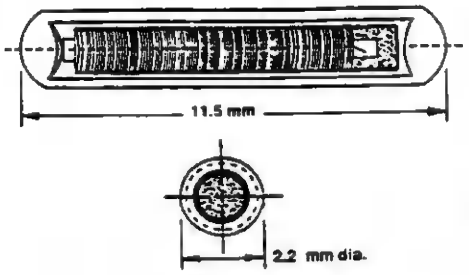
PASSIVE TRANSPONDER SYSTEM

Hand held readers are powered by rechargeable batteries. Data is stored in solid state memory for later transmission by either direct link or phone line to a computer. Typically the reader memory can store several thousand code numbers. A computer can "download" a portable unit with operator directives to facilitate activities such as order picking. By following the computer directives, an operator would, for example, proceed to the location displayed on the unit, use the portable reader to scan the item code, enter a quantity from a menu tablet, and proceed to the next picking location. At the end of the picking cycle the gathered data is transmitted to the main computer where inventory counts are updated. Property management presents another worthwhile application. Plastic encapsulated, code programmed passive transponders can be attached to all capital assets. The current inventory can be established by operators using portable readers scanning the transponders. Stationary readers can be operated in a stand-alone mode or be on line interacting with a host device while performing real time data collection. Serial ports can be made available for interfacing computers, CRT's, printers, and additional readers in various network configurations. Stationary units mounted on shop floor work stations or assembly areas throughout the plant can be used to perform work-in-process, by monitoring industrial type passive transponders attached to containers identifying each lot of material. As the material is processed through each work station, the code is read and the process results are transmitted to a master computer. Real time production information ensures that orders are delivered on time and that the product has been subjected to a thorough inspection operation.

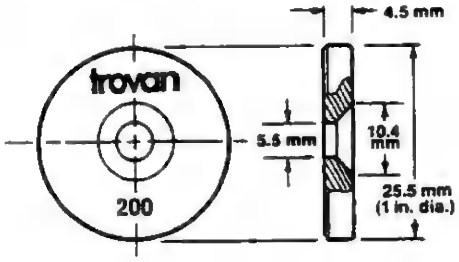


SPECIFICATIONS

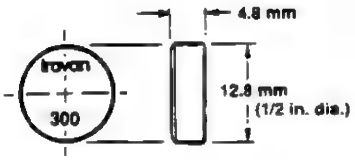
Model - ID 100
Implantable Transponder



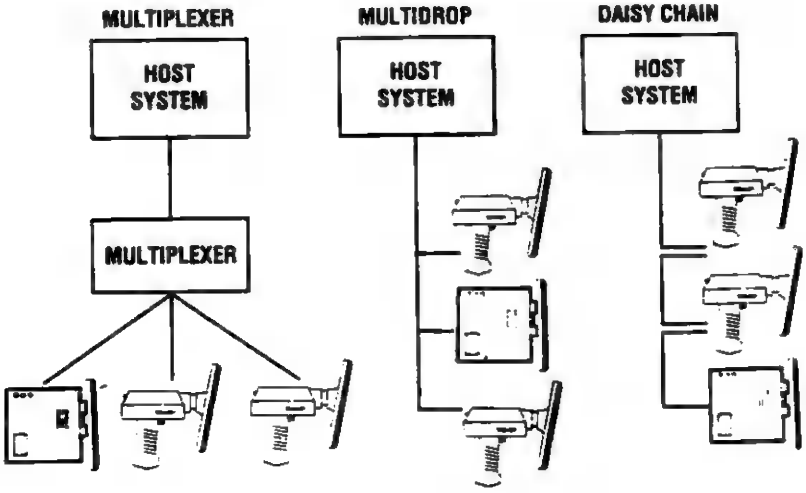
Model - ID 200
Industrial Transponder



Model - ID 300
Industrial Transponder



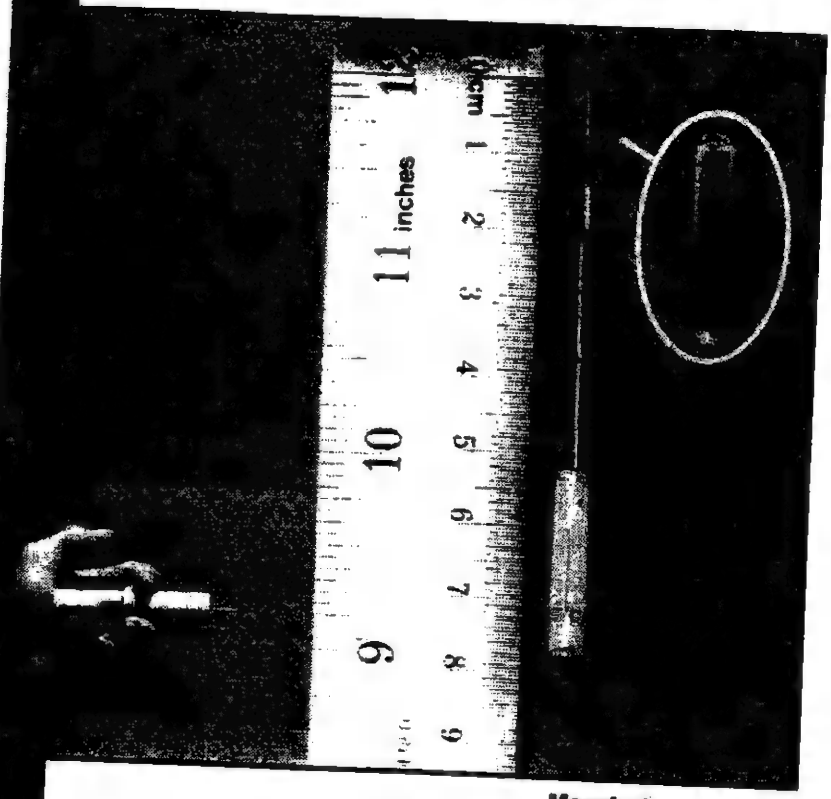
NETWORK CONFIGURATIONS



trovan™
ELECTRONIC IDENTIFICATION SYSTEMS

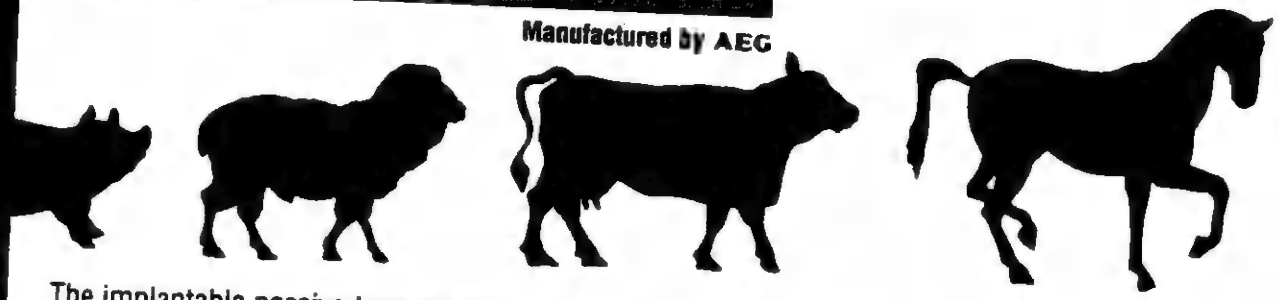
Model - ID 100

Implantable Transponder



Manufactured by AEG

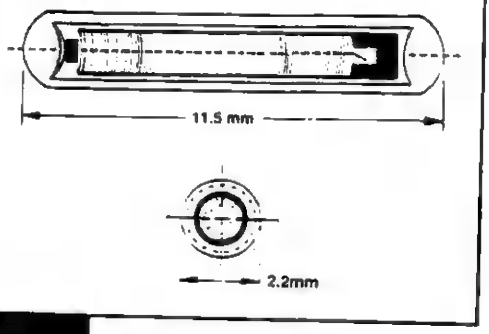
Millions of passive transponders are in daily use in live stock and animal control. They provide a means of herd management, tracking ownership, medical history, origin. Technology replaces eartags, tatoos, and branding.



The implantable passive transponder system provides for the first time an electronic means of animal identification which does not cause discomfort to the animal. The miniature transponder, not larger than the tip of a pencil, lodged just below the skin provides all the information needed. For its operation, the passive transponder does not need a battery and can be interrogated by a hand held or stationary reader at a distance, regardless of the angle of scan, light or environmental conditions. The transponder is electro-magnetically activated by the reader. The activated transponder transmits its unique code to the reader. There, the code is forwarded to a decoder logic for code analysis, and is simultaneously displayed on the LCD and stored in the reader for immediate or future processing.

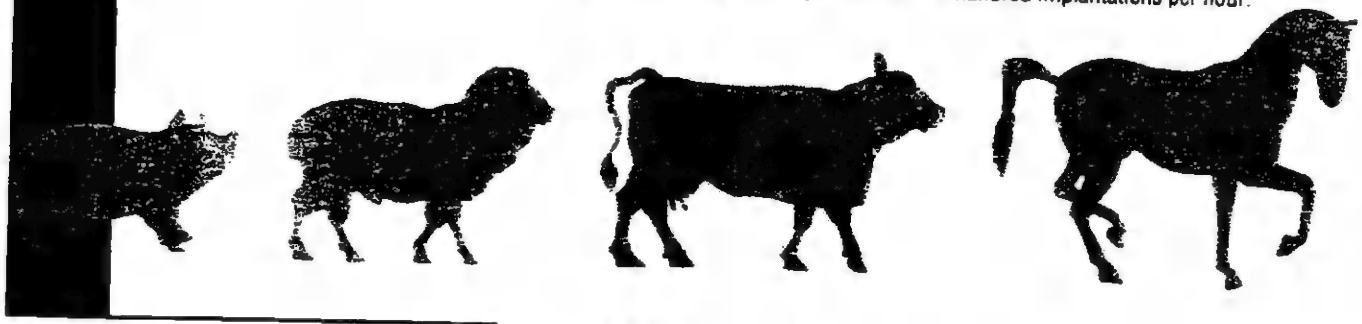
trovan™
ELECTRONIC IDENTIFICATION SYSTEMS

Model - ID 100



Description -

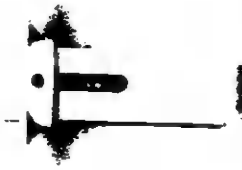
Each individual transponder is given a unique code at the time of its manufacture. Once programmed, the code cannot be altered. The number of possible code combinations is close to one trillion and gives the user of the **PTS** a means of identification with an unmatched degree of security.
The passive transponders, unlike the bar code, are environment independent, will operate submerged in liquids and can be read spherically from any direction, through most materials, except some metals. The only limitation to the operational lifespan of the transponder is the durability of its protective encapsulation.
The animal implantable transponders are supplied in individually packed sterilized needles, ready for use. The needle with the pre-positioned transponder can be attached to the specially designed implanter through a quick-release mechanism, allowing the operator to perform several hundred implantations per hour.



Specifications -

1. Transponder, animal implantable, glass encapsulated, ID 100

Size Overall	Approx. 2.2 x 11.5 mm (0.085 x 0.43 in.)
Identification Code	64 Bits
Scan Angle	Spherical
Reading Range	16 - 20 cm (7.5 in.)
Transmission Time	119 µs/BIT (8375 BAUD)
Storage Temperature	-50° C to +130° C (-58° F to 266° F)
Operating Temperature	-40° C to +100° C (-40° F to 212° F)
Operating Frequency	128 KHZ
Humidity	Submersible



2. Needle, stainless steel, with plastic fitting

Size	Length: 55.5 mm / 2.6 mm (outside dia.)

Performance may vary depending on application.
Manufactured by **AEG**

PRESENTED BY:

trovan
ELECTRONIC IDENTIFICATION SYSTEMS

Model - LID 500

Hand Held Reader

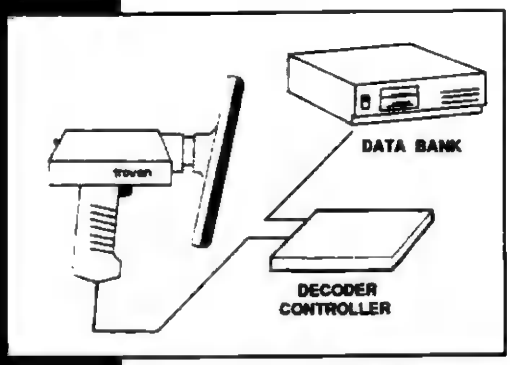
Manufactured by AEG / TELEFUNKEN electronic

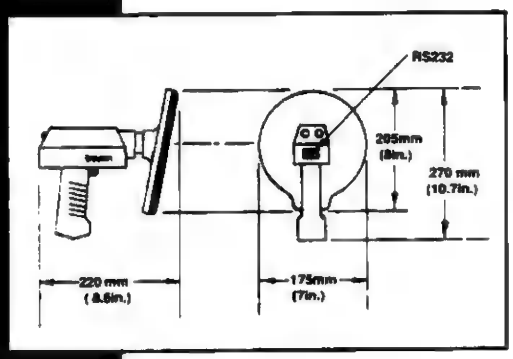
*The **FTS** (Passive Transponder System) is a new technology which will revolutionize the identification industry, giving it a completely new dimension and opening new areas in the identification of both animate and inanimate objects.*

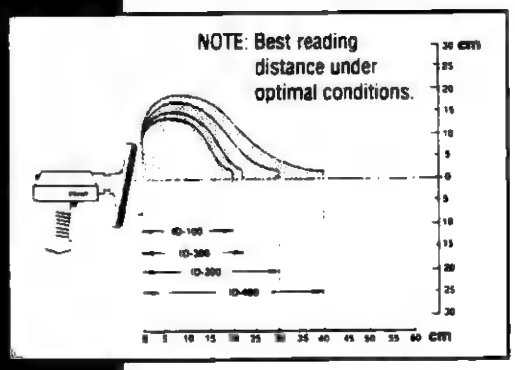
The principle behind the operation of the system is a **hand held reader** emitting a low frequency magnetic field which activates the **passive transponder** within its range. The passive transponder has no power source of its own as it derives the energy needed for its operation from the magnetic field generated by the reader. This means that the transponder has an unlimited lifespan. The transponders, being environment independent, will operate submerged in liquids and can be read spherically from any direction, through most materials, except some metals.

trovan™
ELECTRONIC IDENTIFICATION SYSTEMS

Model - LID 500







Description -

Hand held readers, or scanners, serve as an excellent substitute for traditional clipboards and keyboard data entry and collection methods. Primary benefits from using a combination of hand held readers and coded passive transponders include a reduction in the number of clerical errors in recording data; a reduction in the labor and paperwork required to process the data, faster and more accurate inventory taking; and enhanced efficiency of item or animal tracking/control.
Hand held readers are powered by rechargeable batteries. Data is stored in solid state memory for later transmission to a computer. Typically, the reader memory can store several thousand code numbers. A computer can "down-load" a portable unit with operator directives to facilitate activities such as order picking. At the end of the picking cycle the gathered data is transmitted to the main computer where inventory counts are updated. Property management or animal herd control present other worthwhile applications. Plastic or glass encapsulated passive transponders can be attached to all capital assets or implanted into animals.
The current inventory can be established by operators using portable readers scanning the transponders.
The passive transponder system will perform tasks for which no acceptable solutions were available until now.

Specifications -

Size / Overall	Length:	220 mm (8.6 in.)
	Height:	270 mm (10.7 in.)
	Width:	175 mm (7 in.)
Antenna Size	Height:	252 mm (9.9 in.)
Weight	Approx. 1120 gr.	(39.54 oz.)
Battery	12 V	Rechargeable
Display	LCD (2 lines of 16 characters per line)	
	Acoustical/Visual Read/No Read Indication	
Memory	Programmable	
Storage Capacity	3224 Readings	
Interface	RS232, Nine Pin Connection, 2400 BAUD	
Typical Reading Time	Less Than 0.03 Seconds	
Operating Frequency	128 KHZ	
Humidity	5 - 95% (Non Condensing)	
Operating Temp	0° C to +65° C (32° F to 149° F)	
Storage Temp	-20° C to +70° C (-4° F to 158° F)	
Agency Approval	FCC (CFR 47, Part 15, Subpart C), FTZ	

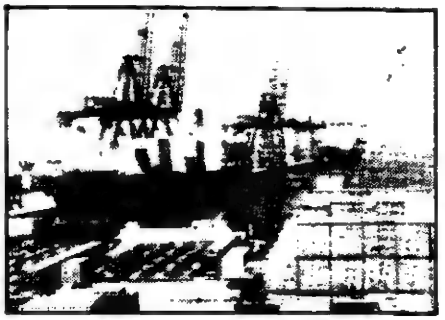
Acceptable environmental conditions will vary depending upon application.
Manufactured by **AEG**/TELEFUNKEN electronic

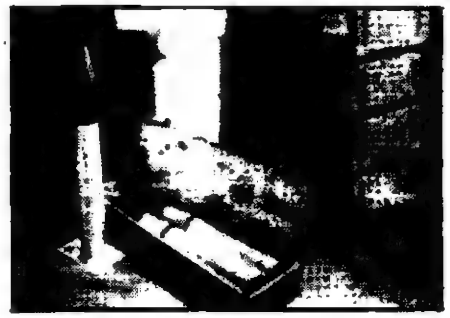
PRESENTED BY:

APPLICATIONS

Just a few examples for the use of the same basic transponder and reader:

- Livestock and animal control (replaces eartags, tatoo, branding), fisheries
- Automobile industry, production control, coded chassis numbers, theft protection, traffic flow control, parking, automatic toll accounting
- Copyright protection, video film, computer software
- Textile industry, production, dry cleaning, etc.
- Valuable items registration, insurance
- Documents, passports, drivers licenses
- Access control, I.D. cards, credit cards, badges
- Warehouse/stock handling, work-in-process monitoring
- Aviation parts, item shelf life control
- Military applications, ammunitions, arms, spare parts
- Shipping, containers, luggage tags integrated with reservation systems, cargo pallets
- Customs, seals
- Survey monuments
- Laboratory applications, blood samples, animals, etc.





PRESENTED BY:

REPRESENTATION IN: *Australia, Austria, France, Germany, Holland, Ireland, Italy, Scandinavia, Switzerland, United Kingdom and the United States.*

TROVAN IDENTIFICATION SYSTEMS are manufactured by AEG/Telefunken in Germany.

EXCLUSIVELY FROM

INFOPET™

CONTENTS:

Sterilized Implantable Transponder
in Disposable Needle
Registration Form and a
Return Envelope

INFOPET™ TRANSPONDER IMPLANT

INFOPET™

IMPORTANT

Please refer to

INFOPET™

implant instructions before proceeding.

THE INFOPET NATIONAL ANIMAL IDENTIFICATION AND RECOVERY SYSTEM

HOW IT WORKS

The INFOPET system has four integrated components. They are:

1. The MICROCHIP which identifies the animal and the SCANNER which reads the code on the Microchip.
2. The RECOVERY NETWORK which consists of locations where SCANNERS are in place to read the MICROCHIP and the 24 HOUR HOTLINE (1-800-INFOPET) which provides the link to the information relating to that MICROCHIP code.
3. The IDENTIFICATION NETWORK which provides the MICROCHIP to the consumer.
4. The COMPUTER REGISTRY which is the database of all registration information relating to the MICROCHIP code.

It is these four components working together which allows INFOPET to satisfy all the requirements of a unique and successful Identification and Recovery System which will replace and render obsolete all other forms of identification in the Exclusive Markets.

SYSTEM COMPONENTS

THE MICROCHIP

The Microchip is an essential component of the Infopet System. Although the patent application for the Microchip is still pending, a patent for the communication protocol between the Microchip and the Scanner was issued on March 8, 1988 in the United States. This technology allows the Infopet System to satisfy the requirements for a successful system of identification in the following manner:

SAFE, PERMANENT AND POSITIVE

The Microchip is constructed of non-toxic components which are hermetically sealed in biocompatible glass. The Microchip was designed with an operating life exceeding 25 years. It is also passive in nature requiring no batteries or other means of internal power. After implantation, the animal's body forms fibrous connective tissues around the Microchip prohibiting its migration.

TAMPER-PROOF AND UNIQUE

Each Microchip receives its permanent and unique coding by a computer controlled patented process which ensures that there is no duplication. It is not reproduced and cannot be altered. Further, the code is not affected by any external influences. Over 34 billion unique combinations are possible with the ten digit alpha-numeric code.

UNIFORM AND UNIVERSALLY APPLICABLE

To date there is no other microchip available due to the uniqueness of its technology and the length of time required to satisfy various design and testing requirements. INFOPET believes that no competitor will exist for at least three years. For the Exclusive Markets, INFOPET is the only source of supply of this product and agreements protect INFOPET's exclusivity. In addition, the simplicity of the manner in which the Microchip is implanted to universally developed site locations renders its use and application virtually foolproof.

USABLE IN ALL SPECIES OF ANIMALS

The Microchip (which is the size of an uncooked grain of rice) is suitable for implantation in all animals. To date, birds, dogs, cats, rats, mice, reptiles, fish and other related mammals have been implanted. This includes animals as small as the fingerling salmon and the mouse and as large as the elephant. Extensive testing over a period of five (5) years in a wide variety of animals has shown no adverse effects to health nor any migration.

UNBIASED

To date, virtually all other forms of identification require a physical inspection of various colorings, markings and features which naturally result in a subjective interpretation by the examiner. Differences of opinion are a natural consequence of non-distinctive, faded, alterable and questionable markings. The alpha-numeric code generated by the Microchip is read by the Scanner and is not subject to this type of interpretation by the examiner and consequently doubt, errors, inconsistencies and discrepancies are eliminated.

COST EFFECTIVE WITH EASY IMPLEMENTATION

The current suggested retail price is $40.00 which includes the Microchip, the associated veterinary services for implantation and the first year of registration. Thereafter an annual renewal fee (currently $11.00) is charged for continued registration on the system. This low cost makes participation in the INFOPET system competitive with all other forms of identification.

Implantation of the Microchip is no more difficult than any routine injection normally performed by a veterinarian and takes less than two minutes. Although the Microchip requires no further attention during the animal's lifetime, INFOPET requires its participating veterinarians to scan their implanted animals at least once a year as part of the animal's regular examination.

THE SCANNER

The Scanner is hand-held and generates an electromagnetic field which, when placed in the proximity of a Microchip:

1. Activates the Microchip;
2. Receives the code emitted by the Microchip and;
3. Displays the code on a liquid crystal display screen.

Power to the Scanner is supplied either by AC current or a rechargeable battery pack. The Scanner is approximately the size of a small shoe box and combined with the battery pack feature makes the Scanner very portable. Its low voltage also poses no threat of electrical shock in damp environments such as barnyards and pastures.

The Scanner is a multiple-option communications and display unit with the following features:

- **Scan Only** – Displays the Microchip code on a liquid crystal display.
- **Scan/Send** – Displays and sends Microchip codes by means of a RS-232 port to printer, computer, modem or other data terminal or data communications equipment.
- **Scan/Store** – Permits storage in non-volatile RAM of over 1300 Microchip codes, in 31 separate files. Memory can then be down-loaded by means of an RS-232 port.
- **Current Status** – Status messages such as READY, SEARCHING, and NO ID FOUND are shown in all Scan modes. Additionally, an audible beep and visible LED flash give confirmation of a positive read.
- **User Menu** – Allows selection of baud rate, parity, stop and data bits, and other serial options for interface with virtually all other computer equipment.
- **Portability and Flexibility** – The Scanner has a shoulder strap and is connected with flexible cable to the Wand. Together, the two devices weigh only 9.5 pounds. Also available is a custom carrying case which holds the Scanner, shoulder strap and battery charger.

A patent for the communication protocol between the Microchip and the Scanner was issued in the United States on March 8, 1988.

THE RECOVERY NETWORK

The Recovery Network is the single most important component in the overall system. Previous attempts to introduce microchip technology failed to realize this aspect and accordingly did not receive the necessary support from those groups involved in the care and control of animals.

WHO PARTICIPATES IN THE RECOVERY NETWORK?

- Government Animal Regulation and Control Agencies.
- Non-Profit Shelters (Humane Societies, S.P.C.A.'s etc.)
- Emergency Clinics

INFOPET recognizes the importance of a broad based recovery network. In its commitment to this philosophy, INFOPET supplies the necessary recovery equipment to participating groups at NO COST, in return for their commitment to scan all appropriate animals, preferably as they enter the shelter and certainly prior to euthanasia or adoption.

Veterinary clinics who participate in the distribution of the Microchip to the public also act as recovery centers.

The Recovery Network has recognized the significant benefits which are received by utilizing the Infopet System. Not only are significant cost savings attainable because animals can be returned by these agencies directly to their owners without having to wait for the owner to claim the animal but they will also be able to achieve a higher level of responsible pet ownership. INFOPET believes that it will ultimately have a significant role in assisting municipalities in their licensing activities. In most jurisdictions cats are not licensed because of the reluctance to have them wear collars. INFOPET makes this new revenue base accessible.

THE IDENTIFICATION NETWORK

In order to ensure proper implantation of the Microchip, INFOPET recommends the use of the services of professionals to perform the implant. Accordingly, INFOPET developed a program for veterinarians which is not only financially rewarding but involves additional intangible benefits to attract veterinarians to participate in the program. This program has been extremely successful and currently involves over 350 veterinarians and 150 clinics in the United States predominantly in California. Expansion of the program across the United States is also underway.

ADDITIONAL IDENTIFICATION NETWORK PARTICIPANTS

Directly	Emergency Clinics Humane Societies S.P.C.A.'s Animal Control Departments

Indirectly Through The Infopet voucher program	Pet Stores Groomers Breeders Clubs/Associations

THE COMPUTER REGISTRY

The Computer Registry is the heart of the Infopet system and forms the National Registration database. INFOPET has developed a computer configuration designed specifically for its needs and has designed several computer programs to provide a state-of-the-art inventory control and management system and a sophisticated database management system.

COMPUTER SYSTEMS

INFOPET has chosen the IBM 3X - AS/400 mid-range computer systems for implementation of our current needs and our growth plans. These systems provide proven reliability, ease of use characteristics, and a clearly defined growth path. In addition, IBM is capable of providing a high-degree of support in all of the locations in which INFOPET intends to conduct its business.

SOFTWARE SYSTEMS

All of the software utilized by INFOPET has been developed in-house with the following criteria in mind:

- that it be easy to learn, and easy to use
- that it provide rapid response times for any and all inquiries
- that it should be capable of being easily modified to handle new application areas, such as municipal and county licensing programs
- that it be implemented consistently in each country in which INFOPET chooses to do business

INFORMATION ACCESS

In addition to collecting the Pet information, it is equally important to be able to access it in a variety of methods. INFOPET can retrieve data on any of its registrants in any of the following ways:

- by Registration number (Microchip number)
- by pet name
- by owner name
- by zip code
- by telephone numbers
- by municipal license number
- by the location of the recipient of the Microchip package (prior to use)

SECURITY

An essential element to the integrity of the INFOPET system is that all Microchips be completely controlled.

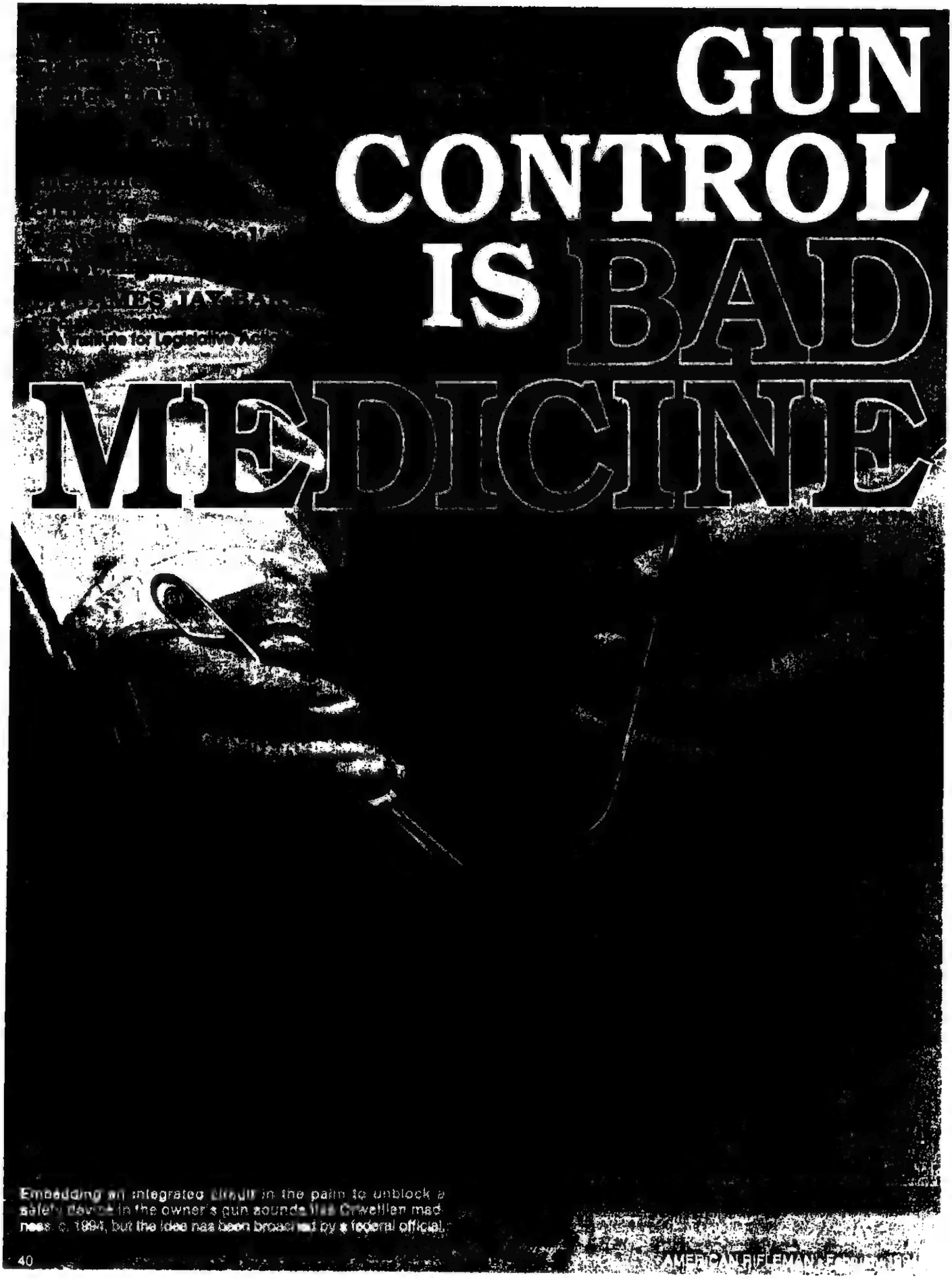
A high level inventory control system monitors every element including the number of Microchips which are in the field, where they are located, when they are used and where they are used. In addition, significant highly sophisticated processing techniques are utilized to eliminate errors and to reduce processing time.

INFOPET employs extensive internal system security measures in order to protect the information contained within our Registry database. Additional security steps are in the planning phase, and will be implemented in conjunction with major enhancements to be delivered during 1989.

REMOTE ACCESS CAPABILITY

An exciting enhancement planned for implementation in the second half of 1989 is the ability for an Animal Control agency equipped with a Personal Computer to be able to access the recovery-specific information in the Registry database directly over telephone lines. This function will enhance the recovery process by reducing the need to telephone INFOPET and request an inquiry to be performed.

GUN CONTROL IS BAD MEDICINE



Embedding an integrated circuit in the palm to unblock a safety device in the owner's gun sounds like Orwellian madness c. 1984, but the idea has been broached by a federal official.

Months after making the decision to purchase a handgun for home protection, you finally have in hand the doctor's certificate required by the Handgun Owner Control Act of 1999, and you drive down to the local gun store.

"OK," the dealer says, "I see you're mentally stable; you've passed all the psychological tests, but where's your palm code certificate?"

"My what?" you ask, not sure if he's joking with you. You quickly find it's no laughing matter. To ensure that only "correct" individuals can operate firearms, Congress has passed the Palm Code Act.

The new law requires that a surgeon insert an integrated circuit implant in your hand that transmits a unique encrypted digital code to a sensor in the gun you purchase. The signal unblocks the gun's safety mechanism, allowing it to be fired. The dealer enters the code on the gun he sells you, after, of course, checking other government-encoded data from your implant.

Sound farfetched? Consider the following from "Gunning for Guns" in the Dec. 9, 1993, issue of *Rolling Stone* magazine. In that article, Dr. Mark Rosenberg "cites the possibility of manufacturing a gun trigger with sensors that recognize and re-

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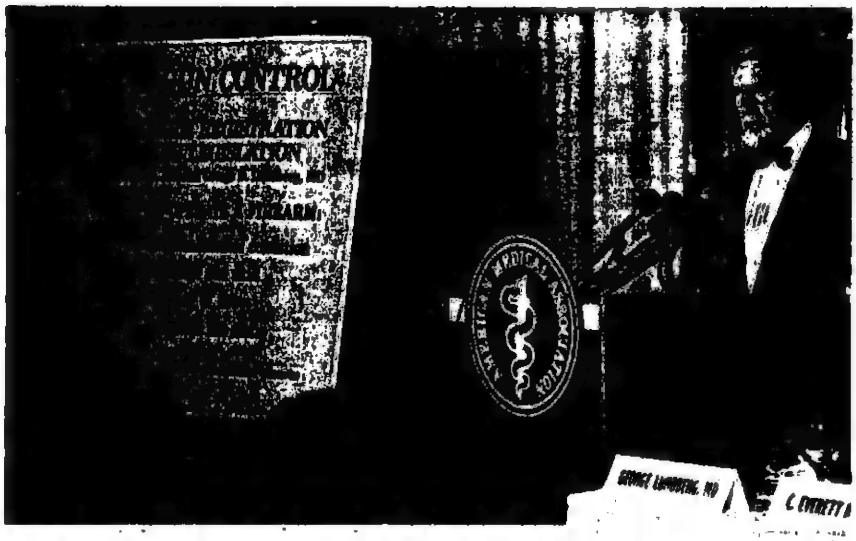

Former Surgeon General C. Everett Koop (l.) and Dr. George Lundberg, editor of the *AMA Journal of Medicine*, beat the drum for gun control at a 1992 press conference, part of a major effort to redefine gun violence as a public health issue.

2.4 MILLION USE A GUN FOR DEFENSE

Prof. Gary Kleck, Ph.D., of the School of Criminology and Criminal Justice at Florida State University is the author of the award-winning *Point Blank: Guns and Violence in America*. Interviewed by J. Neil Schulman in the Sept. 19, 1993, *Orange County Register*, Dr. Kleck discussed preliminary results of the National Self-Defense Survey he and colleague Dr. Marc Gertz conducted in early 1993.

Q: Dr. Kleck, can you tell me generally what was discovered in your recent survey that wasn't previously known?

A: Well, the survey mostly generated results pretty consistent with those of a dozen previous surveys which generally indicates that defensive use of guns is pretty common and probably more common than criminal use of guns. This survey went beyond previous ones in that it provided detail about how often people who had used a gun had done so.

We asked both for recollections about the preceding five years and for just what happened in the previous one year, the idea being that people would be able to remember more completely what had happened just in the past year.

The estimates are considerably higher if they're based on people's presumably more-complete recollection of just what happened in the previous year.

Q: In the last year, how many people who responded to the questionnaire said that they had used a firearm to defend themselves against an actual confrontation from a human being attempting a crime?

A: Well, as a percentage it's 1.33% of the respondents. When you extrapolate that to the general population, it works out to be 2.4 million defensive uses of guns of some kind—not just handguns but any kind of a gun—within that previous year, which would have been roughly from spring of 1992 through spring of 1993.

Q: And if you focus solely on handguns?

A: It's about 1.9 million, based on personal, individual recollections.

Q: And what percentage of the respondents is that? Just handguns?

A: That would be 1.03%.

Q: How many respondents did you have total?

A: We had a total of 4,978 completed interviews, that is, where we had a response on the key question of whether or not there had been a defensive gun use.

Q: Let's break down some of these gun defenses if we can.

A: About 8% of the defensive uses involved a sexual crime such as an attempted sexual assault. About 29% involved some sort of assault other than sexual assault. Thirty-three percent involved a burglary or some other theft at home; 22% involved robbery; 16% involved trespassing. Note that some incidents could involve more than one crime.

Q: Do you have a breakdown of how many occurred on somebody's property and how many occurred, let's say, off somebody's property where somebody would have had to have been carrying a gun with them on their person or in their car?

A: Yes. We asked where the incident took place. Seventy-two percent took place in or near the home, where the gun wouldn't have to be "carried" in a

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Gun Control Is Bad Medicine

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spond to only one hand. (The owner's hand would probably have to be implanted with a chip.)"

Who is Dr. Rosenberg? He is the top injury prevention official at the federal Centers for Disease Control (CDC). He and like-minded public health officials are in the vanguard of an effort to "reframe the debate" on firearms, to make gun ownership a "health hazard." The CDC's Rosenberg also told *Rolling Stone* that he "envisions a long term campaign, similar to tobacco use and auto safety, to convince Americans that guns are, first and foremost, a public health menace."

Schemes to "reframe" the gun control issue as a public health policy issue are, of course, nothing new. What is new is that this full-fledged attack on Second Amendment freedoms is being orchestrated from the White House.

Bill Clinton, and the highest echelons in his administration, now chastise gun owners in virtually every speech to accept restrictive gun laws they claim will make America safer and healthier. You know the litany by now—guns (and by implication their owners) are to blame for the "epidemic" of violence in America . . . the American people are tired of hurting . . . no one is safe in America . . . having a handgun in your house makes you less safe. . . .

Clinton's message finds some receptive ears on Capitol Hill. Guns have "created a public health emergency," says Rep. Major Owens (D-NY), whose remedy was to introduce the Public Health and Safety Act of 1993, which he called "a moderate, middle-of-the-road approach." Moderate? Middle of the road? The bill would ban the possession of handguns and handgun ammunition, which Owens claims are "sold over the counter almost as easily as aspirin." The anti-gun movement clearly is emboldened under the Clinton Administration and is on the march under a public health banner.

THE PUBLIC HEALTH BANDWAGON

THE CDC's National Center for Injury Prevention and Control, led by Rosenberg, supports a biased research agenda which is a not-too-thinly veiled political agenda for anti-gun legislative action.

The CDC, for example, funds the research of Dr. Arthur Kellermann, to the tune of $1,786,000 in taxpayer money over the last several years. Kellermann's recent study, "Gun Ownership as a Risk Factor for Homicide in the Home," appeared in the *New England Journal of Medicine* (NEJM), a publication known for its anti-gun bias.

Kellermann's principal, widely publicized finding was that if you keep a gun in the home, you are nearly three times more likely to experience a homicide there than if you did not. This finding was peddled unquestioned by the national media.

In a letter to the *NEJM*, David N. Cowan, Ph.D., charged that Kellermann used inappropriate analytic research methods in grouping together socially dysfunctional people (persons, for example, who deal drugs) with "normal" people when he should have used separate analysis for the different groups. The fatal flaw, however, is that only homicide data is evaluated, while the overwhelming majority of protective uses of firearms do not involve anyone being killed (See "2.4 Million Use A Gun For Defense" sidebar).

The CDC is hardly circumspect about putting its anti-gun agenda into publication. In May 1993, at the Second World Conference on Injury Prevention and Control, U.S. participants presented a document titled, "Injury Control in the 90s: A National Plan for Action," that called for more research on gun control and harsher restrictions on access to firearms.

Is it any surprise then that the report lists among its supporters Handgun Control, Inc.? You are also a supporter—U.S. taxpayers paid $100,000 to develop the recommendations, and nearly $749,000 to have the U.S. participants present them.

Anti-gun CDC activists drew this blueprint for gun control based on illegitimate and biased "studies," while rejecting scholarly research conducted by respected criminologists who, properly, have no political axes to grind. This fits a pattern of perverting science that was lambasted last year by former CDC official Donald P. Francis.

In a retirement speech published by the *Journal of the American Medical Ass'n*, Francis said, "CDC's programs . . . budget and selection of staff were often dictated by what those in Washington felt were politically correct rather than what was best for the American people." The CDC has, Francis said, "lost sight of its role as an

DOCTORS FOR INTEGRITY IN RESEARCH & PUBLIC POLICY

IN 1992, Doctors for Integrity in Research & Public Policy was formed to examine the issues of guns and violence in America. As the organization studied the vast body of related research, it found the preponderance of medical literature on the subject to be biased or incompetent and directed by the highly politicized, tax-funded Centers for Disease Control.

The medical school professors, researchers and practicing physicians who make up DIRPP are working to expose this shoddy research and waste of taxpayer dollars. Chaired by Edgar A. Suter, M.D., the organization can be contacted at 5201 Norris Canyon Rd., Suite 140, San Ramon, CA 94583. Phone (510) 277-0333, FAX (510) 277-1283.

advocate for the public's health" and become a "servant of politicians."

The orchestration doesn't stop at CDC. The Department of Health and Human Services, the CDC's parent agency, the White House and the Departments of Justice, Labor, HUD, Education and Lee Brown of the Office of National Drug Control Policy have formed an interagency task force on violence. CDC will provide a substantial amount of the data and "research" on which the pre-ordained recommendations will be based.

income generated will have no impact at all in solving U.S. health care problems. Never mind that criminals, who pay no taxes on their incomes, are not about to legally obtain over-taxed ammunition.

FOUNDATIONS & ACADEMIA SOUND OFF

In October 1993, a well-organized conference sponsored in part by the asset-rich, Chicago-based Joyce Foundation and the American Bar Ass'n was held in Chicago.

Called the Handgun Epidemic Lowering Plan (HELP), the conference was convened by well-known anti-gun advocates, including Dr. Katherine Kaufer Christoffel of the American Academy of Pediatrics (AAP). AAP, not coincidentally, has a joint-project entitled "Childhood Firearm Injury Prevention Program" with Sarah Brady's Center to Prevent Handgun Violence, the educational affiliate of Handgun Control, Inc.

The HELP conference was intended, according to Dr. Christoffel, to form a "public health model to work toward changing society's attitudes toward guns so that it becomes socially unacceptable for private citizens to have handguns." The quote came from Dr. Christoffel's letter rejecting the registration of a physician, a gun owner, who wanted to attend the conference ("Random Shots," January, p. 6.).

The Harvard School of Public Health has been commissioned by the Joyce Foundation to develop communication strategies to reposition gun violence as a "public health menace." The top strategist is Dr. Jay Winsten, director of Harvard's Center for Health Communication.

"Smoking," Winsten says, "used to be perceived as a sexy, attractive habit. Today that identical behavior is perceived completely differently. Now can we achieve that with regard to guns?"

An example of the type of the message this involves can be found in a report entitled, "Kids and Guns: A National Disgrace," sponsored by the Educational Fund to End Handgun Violence. Released November 1993, the report recommends:

- Just as there are local chapters of Students Against Driving Drunk, there could be groups of students organized against firearms, particularly handguns.
- School boards ought to incorporate into the curricula facts on firearms which will encourage children not to own

DOCTORS FOR RESPONSIBLE GUN OWNERSHIP

"Only doctors can credibly counter the claims of misguided colleagues who out of ignorance or fear would rescind the right of all gun owners," says Tim Wheeler, M.D. He is organizing a grassroots lobbying and public education network called Doctors for Responsible Gun Ownership, whose initial efforts will be confined to California. If you are a physician and are willing to work to defend your rights, you can contact Dr. Wheeler at P.O. Box 1931, Upland, CA 91785-1931. Phone/FAX (909) 949-9971.

Gun control is also center stage for Hillary Rodham Clinton, who says she's "all for" exorbitant excise taxes on ammunition and firearms sales to finance health care reform. Never mind that taxes would be borne almost exclusively by law-abiding gun owners, that important funds would be diverted away from federal trust funds for wildlife management, that firearms ownership would become out of the reach of modest income earners, and or that the

guns as adults and to urge their parents to remove firearms, specifically handguns, from homes.

- National and local student and youth serving organizations can fully integrate gun safety education into their on-going programs. The program should be developed independent of NRA and under no circumstance should NRA, its products or publications profit from these efforts. The program should emphasize the dangers of firearms, especially handguns, and not simply be a gun shooting safety course.
- Finally, the Surgeon General's office should mount a massive public education program detailing the dangers of firearms and modeled after the successful anti-smoking campaign.

MEDICAL GROUPS ENTER THE FRAY

THE American Medical Ass'n (AMA) supported enactment of the Brady bill. At the AMA's Annual House of Delegates Meeting in Chicago, in June 1993, the American Academy of Pediatrics called on the AMA to support further a ban on the manufacture, sale and private possession of handguns and "automatic" weapons.

The AMA, however, voted to shelve the resolution, and it was defeated. That does not mean that the AMA or other physician- or medical-based organizations are not pursuing guns as a public health issue vigorously. The AMA plans on holding a major violence conference, the focus of which will almost surely include firearms.

The American College of Physicians (ACP) also has under consideration the adoption of policy statements similar to the AAP's handgun ban resolution.

MISREPRESENTING PUBLIC OPINION

EARLY in the summer of 1993, LH Research, Inc. (LHRI), headed up by Lou Harris, released polling results concerning the supposed "sea change" of American public opinion regarding handgun ownership. This study had two familiar supporters—the Harvard School of Public Health and the Joyce Foundation.

A follow-up Harris poll on guns and kids purported to show how America, especially its children, would be much better off if handguns were unavailable. The

Using A Gun For Defense

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legal sense. And then some of the remainder, maybe another 4%, occurred in a friend's home where that might not necessarily involve carrying. Also, some of these incidents may have occurred in a vehicle in a parking lot, and that's another 4% or so. So, some of those incidents may have involved a less-regulated kind of carrying. In many states, for example, it doesn't require a license to carry a gun in your vehicle, so I'd say that the share that involved carrying in a legal sense is probably less than a quarter of the incidents.

Q: Well, does that mean that approximately a half million times a year somebody carrying a gun away from home uses it to defend himself or herself?

A: That's what it would imply, yes.

Q: How many people had to merely show the gun, as opposed to how many had to fire a warning shot, as to how many actually had to attempt to shoot or shoot their attacker?

A: You have to keep in mind that it's quite possible for people to have done more than one of these things since they could obviously both verbally refer to the gun and point it at somebody or even shoot it.

Fifty-four percent of the defensive gun uses involved somebody verbally referring to the gun; 47% involved the gun being pointed at the criminal; 22% involved the gun being fired; 14% involved the gun being fired at somebody, meaning it wasn't just a warning shot; the defender was trying to shoot the criminal. Whether they succeeded or not is another matter, but they were trying to shoot a criminal. And then in 8% they actually did wound or kill the offender.

Q: Did you get any data on how the attackers were armed during these incidents?

A: Yes. We also asked whether the offender was armed. The offender was armed in 47.2% of the cases, and they had a handgun in about 13.6% of all the cases and some other kind of gun in 4.5% of all the cases.

Q: So in other words, in about a sixth of the cases, the person attacking was armed with a firearm.

A: That's correct.

Q: And the remainder?

A: Armed with a knife, 18.1%; 2% with some other sharp object; 10.1% with a blunt object and 6% with some other weapon. Keep in mind when adding this up that offenders could have had more than one weapon.

Q: So, in approximately five-sixths of the cases, somebody carrying a gun for defensive reasons would find themselves defending themselves either against an unarmed attacker or an attacker with a lesser weapon?

A: Right. About five-sixths of the time.

Q: Are there any other results coming out of this which are surprising to you?

A: About the only thing which was surprising is how often people had actually wounded someone in the incident. Previous surveys didn't have very many sample cases, so you couldn't get into the details much, but some evidence had suggested that a relatively small share of incidents involved the gun inflicting wounds, so it was surprising to me that quite so many defenders had used a gun that way.

LHRI releases were successful with the media, which immediately fixated on what they believed to be a true change in public opinion.

Universally ignored by the general media was a devastating dismantling of the LHRI kids and guns poll by award-winning criminologist Gary Kleck in an article in the September/October 1993 issue of *The Public Perspective*. Prof. Kleck wrote:

"Battered by a decade of scientific research contradicting the central factual premises underlying gun control, advocates have apparently decided to fight exclusively on an emotional battlefield, where one terrorizes one's targets rather than honestly persuading them with credible evidence. The LHRI survey appears to be nothing more than advocacy polling."

MEDIA MANIPULATION

This intense media focus on adolescent violence, including making anti-gun docudramas, has created an atmosphere for public health advocates to argue that a major health crisis for adolescents has arisen, requiring immediate intervention. Time Warner's HBO film "Strapped" premiered in Washington, D.C., with the full support of the Joint Center for Political and Economic Studies.

In the commentary it released, the Center states, "Finally, and very directly, the film demonstrates the inadequacy of gun control policy in the U.S. Not only does it point to the ease with which anyone can sell firearms; it shows that state-based gun control laws have little impact on firearm availability."

This comes, of course, at a time when the American public and some members of Congress have become increasingly disgusted by violence on TV and in the movies. Hollywood, looking for a scapegoat, is pointing to guns and has found a willing accomplice in gun control lobbyist Michael Beard, president of the Coalition to Stop Gun Violence (formerly the National Coalition to Ban Handguns).

According to *National Journal*, Beard has met with producers, directors and writers in Hollywood and has another trip planned to meet with representatives of several studios in actor Gregory Peck's home. The magazine listed Walt Disney Co., Paramount Pictures Corp., Sony Corp. and Warner Brothers Inc. and also cited an upcoming meeting between Beard and MTV and Viacom International Inc.'s Nickelodeon network.

The gun-ban lobby has been considerably strengthened by its partnership with the public health and medical communities, which are visible, vocal, credible and accessible to the media. Physicians and other health professionals who are NRA members must not let anti-gun advocates co-opt gun owners into the health reform debate, target us as public health menaces, or paint us as a danger to public safety. ■

Adopted pets get microchip implants

All cats and dogs adopted from the Toronto Humane Society will now have a tiny microchip inserted under their skin that can help authorities trace their owners. The microchip will be implanted in the fatty tissue between the animal's shoulders and can be read by a scanner, which will display its number.

(*Toronto Star*, 92/05/05)

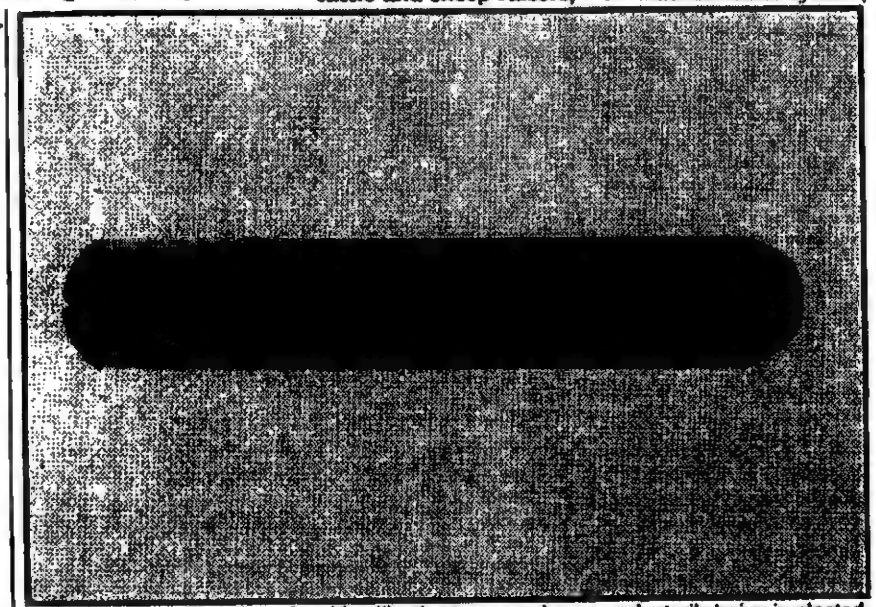
The Electronic Mark Is Now Perfected

By G. G. Stearman

The race is on! Several companies are now competing in a new market that has practically unlimited potential: The implantation of electronic identification transponders in animals. When electronically interrogated, they broadcast a specific number.

These transponders–radio receiver/transmitters–are now encased in tiny glass tubes about the size of a rice grain. As technology rapidly improves, they will no doubt become even more compact, and contain more information. Many municipalities and farm operations are beginning to use them to identify animals. They are much more effective than a tag or brand, since they can contain information specific to the individual animal. Also, since they become a permanent part of the animal, they can't be lost.

Currently, these so-called passive transponders can be programmed with a number ranging between 4 and 10 digits. Using a hypodermic needle, the unit is placed just beneath the skin of an animal. When a hand-held interrogation unit is brought near the implantation site, the transponder is activated, transmitting its number, which is then digitally displayed on a screen.



This is a magnified view of an identification transponder now voluntarily being implanted under the skin of animals. Its actual size is the size of a grain of rice. How long might it be before the government or police require these in the right palm or foreheads of humans?

One U.S. company, known as Destron/IDI Inc., is now marketing its unit "used to track cow and sheep herds, as well as pigs, pets and fish." The April 16th edition of *The Denver Business Journal* reports that an Australian company known as Animal Electronic ID Systems Ltd. has linked up with Destron/IDI to install the system in their country. "Animal Electronics will purchase $2.5 million of Destron's animal identification products in the next five years and contribute $100,000 to Destron's product development. The company intends to sell the Destron products to cattle and sheep raisers, as well as to pet owners."

The California Dairy Herd Improvement Association has begun a program in seven Western states, with the expectation that it will soon spread nationwide. In 1990, the association "expects to identify 70,000 animals with the Destron system in 1990, and 1 million by 1991, but that is just the tip of the iceberg of the Destron agreement, said Lee Curkendall, president of the California association."

Texas Instruments is also rushing to develop its own identification system, and is in the running "for a massive contract with the Dutch government to identify 22 million pigs in Holland."

Another U.S. company known as Infopet has already sold its system to many municipalities as part of an animal control system. Soon, pets will be numbered as part of a nationwide move to improve animal control.

In truth, the system is based on a good idea. Branding and tagging will now yield to a much more efficient system. Farmers and ranchers, as well as city animal-control officers will no doubt welcome the system as it greatly simplifies their work.

But students of Bible prophecy will feel a chill, futuristic wind blowing across a sinister horizon. The economic system of the antichrist will someday call for just such a numeric identification system. Currently, Americans are numbered with a 9-digit Social Security number. Implanting that number just beneath the skin of the right hand or the forehead is now a practical reality. An individual so numbered could be traced in all his movements.

Of course, none of our current leaders would call for such a draconian system. But one day, the numbering of the population will seem like the right thing to do:

And he causeth all, both small and great, rich and poor, free and bond, to receive a mark in their right hand, or in their foreheads:

And that no man might buy or sell, save he that had the mark, or the name of the beast, or the number of his name.

Much has been written about these two verses in Revelation 13:16 and 17. There has been much conjecture about details of the antichrist's economic strictures. The simple fact of the matter is that a man's number will be the agency by which his financial transactions are registered. Without the number, no transactions will be possible; there will be no income, no food and no shelter.

As you read this, electronic implants are being introduced worldwide in the animal-control industry. They are considered an improvement, and no doubt they are. Someday soon, however, the offshoots of this system will be used in a way that their inventors never envisioned.

Currently, Americans are numbered with a 9-digit Social Security number. Implanting that number just beneath the skin of the right hand or the forehead is now a practical reality.

Microtechnology and the Mark of the Beast

BY TOM FONTANES

"And he (the Antichrist) causes all, both small and great, rich and poor, free and bond, to receive a mark in their right hand, or in their foreheads:

And that no man might buy or sell, save he that had the mark, or the name of the beast, or the number of his name.

Here is wisdom. Let him that hath understanding count the number of the beast: for it is the number of a man; and his (the Antichrist) number is Six hundred threescore and six." Rev.13:15-17

"Consider a powerful 'biochip' made from living protein that, once surgically implanted in the brain, could make it possible to program or "upload" an unlimited amount of information into the mind- without having ever to crack open a book." This was the scenario Teresa Allen presented in her 1989 article "Future shock: 'Biochip' Science Fiction Technology Here."

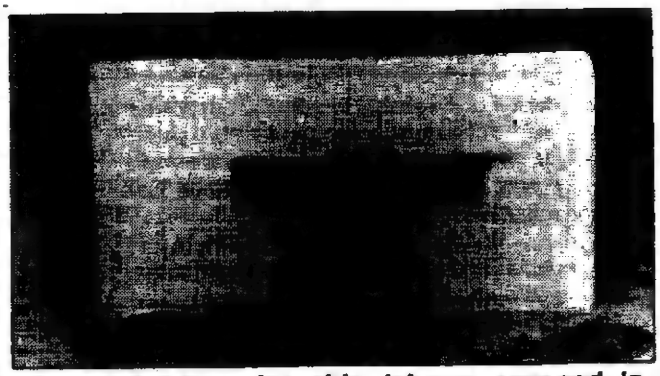
Too far-fetched to really happen? Tim Willard, managing editor of a bi-monthly magazine *Futurist* and executive officer of the Washington D.C. based **World Future Society** which claims among its 27,000 members Future Shock Author Alvin Toffler, would disagree. According to Willard within twenty years today's microchip will be rendered obsolete by "a biochip made out of living protein ...infinitely smaller and (with) the capacity to carry much more information (and) a range of functions that will boggle our minds."

"a biochip made out of living protein ...infinitely smaller and (with) the capacity to carry much more information (and) a range of functions that will boggle our minds."

In the last two millennia Western Civilization has moved from the Age of Faith to the Age of Reason, into the Age of Discovery. Today, because of technology we are said to be in **The Age of Information.** In the book America In Perspective, by Oxford Analytica, it states that "The area of greatest economic impact in the next decade is likely to be **telematics,** the information of economy. This (will increase) the development of a wide range of microchip-based systems of information processing combined with communications and control technologies.ll

By far the two largest subscribers of **telematics** are the federal government and private business. In the government there are five major federal agencies which collect the largest amount of data. These are the Department of Health, Education and Welfare, of Commerce, which handles the census of Defense, of Social Security, and the IRS. In his book, The Cult of Information, Theodore Roszak writes that together these five departments have over 3 billion overlapping files on American citizens.

In 1985 the government enacted National Security Directive #145 giving the National Security Agency exclusive control and use of all federal computers and data banks. More ominously, however, it permits the NSA access to all government computerized files with no provision for the right of privacy.



The prototype microchip (shown encased in plastic), can be inserted with a hypodermic needle.

In the private sector the largest data banks are those belonging to the nearly 2,000 credit bureaus. The 5 largest, among which are corporations like TransUnion of Chicago and TRW of California, alone possess over 450 million files. One estimate, in fact, states that 80 percent of Americans over the age of eighteen are in their computers somewhere. These files contain entries under such headings as **lifestyle** which include information ranging from personal income and shopping habits to political affiliation and religious persuasion.

Rozsak gives an excellent example illustrating that no data is so unimportant or too trivial to be collected. In 1984 the Selective Service sent an eighteen-year-old boy in California, several months delinquent in registering for the draft, a computerized warning letter. There was, however, no such person at the address. After a federal investigation it was found that the name had, in fact, been invented by two teenagers. Several years before the pair had filled out a card at a local ice cream shop offering free birthday treats to its young customers. The name went into the store's computerized mailing list, which was later sold to one of the country's many direct mailing businesses. The list was eventually made available to the Selective Service which routinely collects and sorts such lists specifically to obtain names and addresses by birthdays.

As technologically advanced as today's computers have to be, to process all this data, there are even greater computers known as "super computers."

According to Sidney Karin and Norris Parker Smith, in their book The Supercomputer Era, rather than a particular design or model, "A supercomputer is the most powerful computer available at any given time."

New ideas," asserts the Analytica, "techniques and ways of building computers aim at more powerful, faster processors and memory chips, and machines that function in entirely new ways in order to think and learn. Systems that use 'parallel processing', allowing many operations simultaneously, would enable artificial intelligence applications: distinguishing between fragrances; vision; reading; hearing and speaking natural language; and the ability to reason and make judgements."

Bearing this in mind it is worth noting that according to Karin and Smith, in the mid-80s the Trilateral governments of the United States, Japan, and Western Europe began stimulating the development of supercomputers.

It goes without saying that what makes

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these computers "super" is their ability to compile and collate massive amounts of data almost instantaneously. The next "wave" or **quantum leap** forward will be in the combining of the micro-chip and telematics.

The Smart Card

An example of this marriage is found in a 1987 *U.S. News and World Report* article entitled "Raising the Intelligence of Credit Cards," by Stanley N. Wellborn, which talks about a "smart (credit) card" with a "silicon brain." The article describes how a microprocessing chip with a 2,500 character memory, and 200 possible transactions will be combined into a (credit) card. It also goes on to tell about a future version of the smart card which will have tiny memory banks containing the subscriber's bank balance, stock portfolio, complete medical history, a computerized signature and fingerprint, and even a list of appointments and addresses." Wellborn goes on to write about an even more "advanced smart card" called "the UltiCard," or "Ultimate transaction Card," that's memory can be changed and updated by the card holder."

Arlen R. Lessin, president of Smart Card International and inventor of the UltiCard, says the card in effect will allow holders "to carry their banks in their pockets. It can keep track of two separate accounts, one for charges and one for debts (and) with enhanced memory, as well as carry an encrypted version of your signature, fingerprint, and/or even your portrait."

The Ulticard will allow a merchant to verify that your account can cover a particular purchase. It then interfaces with your bank, records the transaction, and deducts it from the balance, before displaying an authorization number that can be copied on the sales slip.

"Smart cards could (also) serve as keys to restricted areas," continued Wellborn, "serve as a passport and hold prepaid electronic tokens for phone calls, parking meters and gas pumps." To activate the UltiCard the user enters a password or six digit PIN (Personal Identification Number) assigned by the banking system.

It is worth considering that perhaps this six digit PIN could, in fact, be the precursor or maybe a form of the 666 in the thirteenth chapter of Revelation. Hal Lindsey believes, and stated, that 666 "will be the prefix to a larger number that every person will be required to receive and (that everyone will be) required to worship the Antichrist in order to qualify to receive it-without which they can't buy, sell, or hold a job. So it's a means of absolute control through the use of economics. I believe the world is being set up for that right now."

Needless to say the implications of Allen's scenario are ethically threatening. Yet it is important to realize that, given our technological ability and moral climate, rather than a future threat, it is a real and present danger. According to Willard, "the technology to accomplish such a feat is already here, or in the process of being developed."

In 1985 the government enacted National Security Directive #145 giving the National Security Agency exclusive control and use of all federal computers and data banks.

Consider this fact: a microchip, manufactured by the Destron/IDI firm of Colorado and marketed by INFOPET of Southern California, is already being implanted in animals by veterinarians and various humane societies throughout the U.S. and Canada.

This chip, or **Implantable Transponder**, is 11 mm x 2.1 mm, and weighs only 67 mg making it small enough to be injected under the skin through a hypodermic needle. Inert, and composed of biocompatible glass, each Transponder is imprinted with a unique identification number.

Destron describes the **Implantable Transponder** as "a passive radio-frequency identification tag, designed to work in conjunction with a compatible radio-frequency ID reading system." Consisting of an electromagnetic coil and microchip the **Transponder** is sealed in a tubular glass enclosure. With over 34 billion individual code numbers available, the chip is preprogrammed with a unique ID code that cannot be altered. When activated by a low frequency radio signal, the **Transponder** transmits the ID code which appears on a screen when the subject is scanned with a computer wand.

One estimate, in fact, states that 80 percent of Americans over the age of eighteen are in their computers somewhere.

A marketing video by INFOPET, offering the Transponder to pet owners, states: "In the past four years thousands of animals have been implanted with micro-chips. The conclusive results indicate that this form of identification is both safe and effective in all species."

Once implanted all related information goes into a computer data bank that can be accessed via a toll free 800 number from anywhere in North America.

The video tape presentation ends by stating that this "high tech," "electronic identification," "micro-chip system...will replace and render obsolete all other forms of identification."

While stating that there are "10,000 ideas to explore" when it comes to the chip's potential, Destron president Jim Seiler claims human application is not one of them.

A brochure by Destron, however, states that: "Although specifically designed for implanting in animals, this transponder can **be used for other applications** requiring a micro-sized identification tag."

Since, according to Willard, the technology behind the transponder is "fairly uncomplicated" with a little refinement, could be used in a variety of **human applications.** One of the "applications" he feels includes "a Universal identification card that would replace credit cards, passports, that sort of thing."

"But just suggest something like an implant in humans and the social outcry is tremendous," continues Willard. "While people over the years may have grown accustomed to artificial body parts, there is definitely a strong aversion to things being implanted. It's the 'Big Brother is watching concept..."

And rightly so since Willard then states that: "a human microchip identification system would work best with a highly centralized computer system....Conceivably, a number could be assigned at birth and go with a person throughout life....Most likely," he added, "it would be implanted on the back of the hand for convenience so it would be easy to scan."

This futurist view is as Orwellian as the **doublespeak** used to try and justify it. Not

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all futurists, however, share Willard's view.

"It reminds me of tattooing concentration camp victims in World War II," said Robert Mittman of the Institute for the Future, a non-profit research and consulting firm in Menlo Park, California. He said there were better methods of identifying people other than "violating the integrity of their skin."

Mittman's comment is almost scripturally insightful. First consider that "the Mark of the Beast" in Revelation thirteen is a counterfeit of "The Seal of the Lamb" in chapter seven. Next, consider that in Greek the word "seal" is **sphragizo** which is a stamp of security and preservation while "mark" is **charagma** meaning a scratch, etching, or tattoo, representing a badge of servitude, or slavery.

In the science fiction movie classic "Demon Seed", Proteus is the evil conscious intelligence of an ultra-supercomputer. Like some technological genie, Proteus seeks to escape the limits of its silicon based microprocessing world. Yearning to experience reality externally as a human, it abducts, and keeps hostage, its creator's wife. By means of bio-technology, genetic engineering, and a remote robotic unit, Proteus creates a sperm cell. This "Demon Seed," containing an artificially constructed DNA code replicating its unique conscious personality or, if you will, "soul," is then implanted in its captive womb. An embryo is produced that develops into a fetus which is eventually born. The movie ends with the new born infant's eyes reflecting the laser gleam of the supercomputer

Proteus, as it whispers, then declares, "I am alive." Cinematically, this film is "biotechnology meets 'Rosemary's Baby'." Prophetically, it is possibly a means for a satanic counterfeit of the virgin birth and incarnation of the coming Antichrist.

As we "fast forward" into the last days, the fulfillment of prophecies increase. Although alarming, as Christians we know that our God is sovereign and has everything under complete control. This, however, will only be of comfort to those who have been spiritually reborn.

Do you know Jesus Christ as your Lord and Saviour, or will you meet Him as your Prosecutor and Judge? You may one day find yourself in a world where everyone, including you, is being implanted with transponders and forced to worship the image of the Antichrist. Then after you either die of fear, supernatural catastrophe, divine judgements, are executed, or even survive, you will find yourself facing the same Lord you have ignored and rejected.

The Bible tells us that "It is a fearful thing to fall into the hands of the living God" (Hebrew 10:31). However, the same Bible states that "God is not willing that any should perish but that all should come to repentance." (I Peter 3:9) So "Choose this day whom you will serve. As for me and my house, we will serve the Lord" (Joshua 24:15).

CIRCUIT IMPLANTS

Mini micro circuits implanted in the nerves of the teeth or within the body, puts the finishing touch on the completely controlled 20th Century man!

GLOBE Series What's New In

THE MICRO MIRACLE

Surgical implants no bigger than a [illegible] are making possible miracles in the operating room. And newly-developed micro-surgical tools are turning these miracles into daily occurrences.

"Micro-surgery is an astonishingly new field," Calvin Atwell told MIDNIGHT/GLOBE. "Medical schools have just begun teaching the new techniques necessary.

"For example, a microscope must always be employed. And of course greater protection than ever is required."

Atwell, who has a degree in anatomy, is spokesman for the Xenon Corporation of Cincinnati. It manufactures tiny instruments and tools for ear, nose and throat operations.

"Sight and hearing can now be restored to persons who could not have been operated on before," Atwell said.

"What's more, micro-surgery's opened up such innovations as partial rather than radical mastectomies and the restoration of fingers or toes that have been severed."

Atwell described a typical surgical procedure [illegible] becoming commonplace through the use of the new implants and tools.

"People are sometimes dizzy because the eustachian tube in their ear is malfunctioning," he said. "The middle ear is blocked.

"There's no room for the fluid to go, so it presses on the nerves and causes pain.

"What the surgeon now does is make an incision in the ear drum. He puts in place the tiny open valve, which allows ventilation and closes up the condition.

Atwell held up the [illegible]. It's made of [illegible] and stainless steel. It's small enough to fit into a child's [illegible]

These Tiny Implants Are Revolutionizing Modern-Day Surgery

electrical surgical drill. It looked like a short pen, plugged into a socket.

"Kids are prone to repeated ear infections," he said. "These are caused by [illegible] or adenoidism, a throat infection, and if they spread up the eustachian tube to the middle ear, the kids' hearing is impaired.

"So the surgeon takes the electrical drill and, working through an incision behind the ear, drills through the bone into the mastoid cavity.

"Under the microscope, he cleans out the infection. And

Hearing Breakthrough?

'Ear Teeth' Wired for Sound

NEW YORK — (NEA) — Men will be able to hear through their mouths as well as their ears in the not-too-distant future if the research of two [illegible] scientists pans out.

"I couldn't hear you, my mouth was closed."

The idea isn't quite as simple, but the gist of the matter is that man can indeed hear this way — more precisely, through his teeth.

If you don't believe it, get a tuning fork or even an all-metal table fork, strike the prongs and hold the handle of the fork against your teeth. Be careful not to let your lips interfere.

While making a telephone call six years ago, Dr. Earl Collard did the same thing you just did. He held a vibrating tuning fork against one of his teeth. Hearing a clear tone, he conceived the idea that this principle could be used to make a tooth-hearing device that would be contained entirely in the mouth.

THE PRINCIPLE of tooth-hearing is called audiodontics and it may be the basis of an entire new method of communication, according to Dr. Collard, assistant professor of dentistry at the University of California at Los Angeles.

Audiodontics holds promise in a host of areas ranging from civil actors to signaling football players and from keeping track of children to helping those who are hard of hearing, says Dr. Collard who is working on the project under a basic research grant from the Division of Research Resources of the National Institutes of Health.

The device works like this. A tiny receiver, no larger than a tooth, is placed in the mouth. It may be located in a gap left by a missing tooth, or a smaller device may be affixed to the back of a structurally sound tooth or even inserted inside it. A tiny transmitter-receiver would be located somewhere on the body, in a pocket, for example. This device would pick up sounds sent from a given source and retransmit them several feet to the mouth. It would be a wireless arrangement similar to a walkie-talkie. The person with the audiodontic device would be able to hear words or music clearly although he could not transmit back the same way.

CONVERTING HIMSELF into a radio receiver, graduate student Gerald C. Dahlin passes a plastic oral retainer in his mouth to pick up audiodontic transmitter's signal.

"When the sound gets to the mouth the tiny receiver drives it through the bones of the upper jaw and into the inner ear. Here the sound goes through the tiny ear bones, the hammer, anvil and stirrup, and is transmitted to the brain via the auditory nerve. If there is severe nerve damage, of course, the system is of no use.

Most hearing aids simply amplify sound in the air which is going to the eardrum. Some hearing aids, however, do transmit sound through the mastoid bone, behind the ear, to the inner ear. This type of bone transmission hearing aid, as well as the tooth-hearing device, transmits sound to the inner ear through a mechanism sometimes referred to as "bone rattling," which it actually is.

Dr. Collard says that he has received hundreds of letters from people around the world who have been led to believe that the tooth-hearing device is a great new breakthrough for the deaf or hard of hearing.

"It is very difficult writing back to these people that what we have is basically a communications device that is completely concealed," he says.

The tooth-hearing device may indeed be useful for some hard-of-hearing persons, just as some benefit more from the bone conduction hearing aids than from the regular sound amplification systems.

Esthetically, of course, the audiodontic system is preferable because there are no wires or other devices to show. A child with that sort of hearing aid would not be subject to ridicule by his schoolmates. It also holds advantages for athletes or crippled or disabled persons because there is nothing on the head to get knocked loose.

ALTHOUGH Dr. Collard says he would be very happy if his device helped the hard-of-hearing, he notes that currently there are more applications for general communications.

Football players could receive instructions from their bench, deep-sea divers could get messages from the surface, lecturers could have their lectures "fed" to them and actors could be cued. All of this could be done without anyone ever knowing about it. Moreover, since the device does not block either ear, the person still has his full hearing faculties in addition to his "ear teeth."

Students could even cheat on exams by getting information via their teeth, and such a "crib sheet" would be virtually undetectable.

Dr. Collard, however, likes to talk about legitimate uses. "This device would add great stability to the hard-of-hearing child at play. There would be no chance of losing his hearing aid."

"Imagine," he adds, "a tiny transmitter battery-powered to a child. Meanwhile, his mother, who might be working in the kitchen, could monitor where the child was as well as retaining her normal hearing."

DR. COLLARD and his colleague, Dr. Frederick Allen, an electrical engineer at UCLA, have already developed a working model for their audiodontic device.

"We are now in the pure research stage. We are testing the inertia of the tooth to determine the amount of force or energy necessary to vibrate the tooth. Once we have determined this, we can proceed with the design and manufacture of the miniature (device) to be inserted into the teeth," they say.

Top Scientist Forecasts That Within 20 Years . . .

Computer Implanted in Brain Could Make Us All Psychic

Reading other people's thoughts . . . solving complicated math problems with split-second speed . . . instantly recalling a name from the past.

Within 20 years you could be showing off these amazing abilities — by having a tiny computer implanted in your brain, forecasts Dr. Adam Reed, a top scientist in the field of advanced computer technology.

"The brain-computer hookups could make everyone psychic," he said. "People will be able to read other people's minds if they, too, have such a device implanted in their brain.

"You'll know exactly what someone else is thinking."

Dr. Reed, a psychologist at Rockefeller University in New York City, said the computer of the future will be "an electronic extension of the natural brain."

He added that the device will be no bigger than a sugar cube so that it will be easily implanted.

"The computer in your brain will be a direct link to all the world's available stored knowledge.

"It will make it possible for you to make contact with every other computer instantaneously.

"You'll only have to think of a question to have the answer at once.

"You will also be able to calculate even the most complicated problems with split-second speed.

"The internal computer will have stored in it everything you might want to know about foreign languages, mathematics, music, history — and any other subject you would want to add."

Also, said Dr. Reed, you'll enjoy instant recall. "The information stored in your own memory cells and in your computer will be readily accessible. You won't be able to forget things."

Dr. Karl Pribram, professor of psychiatry and psychology at Stanford University, told The ENQUIRER that he believes the computer-brain hookup is feasible.

"It could come about in two decades — maybe sooner," said Dr. Pribram, who is involved in researching ways to decode the human thinking process.

"The technological groundwork has been laid for such a development.

"All we need now for a computer-brain hookup is to discover a way to transmit and decode the brain waves."

— ALLAN A. ZULLO

PSYCHOLOGIST Dr. Reed predicts: "You know exactly what one else is thinking.

The Brain Behind the Science

Psychology Today magazine calls him "The Magellan of Brain Science." Neuropsychologist Frank Wood of the Bowman Gray School of Medicine in Winston Salem, North Carolina, compares his pioneering work to that of the ancient Greek philosopher Aristotle. Dr. Karl Pribram, head of the Neuropsychology Research Laboratory at Stanford University, has been making innovative strides in the science of behavior ever since he started practicing as a neurosurgeon.

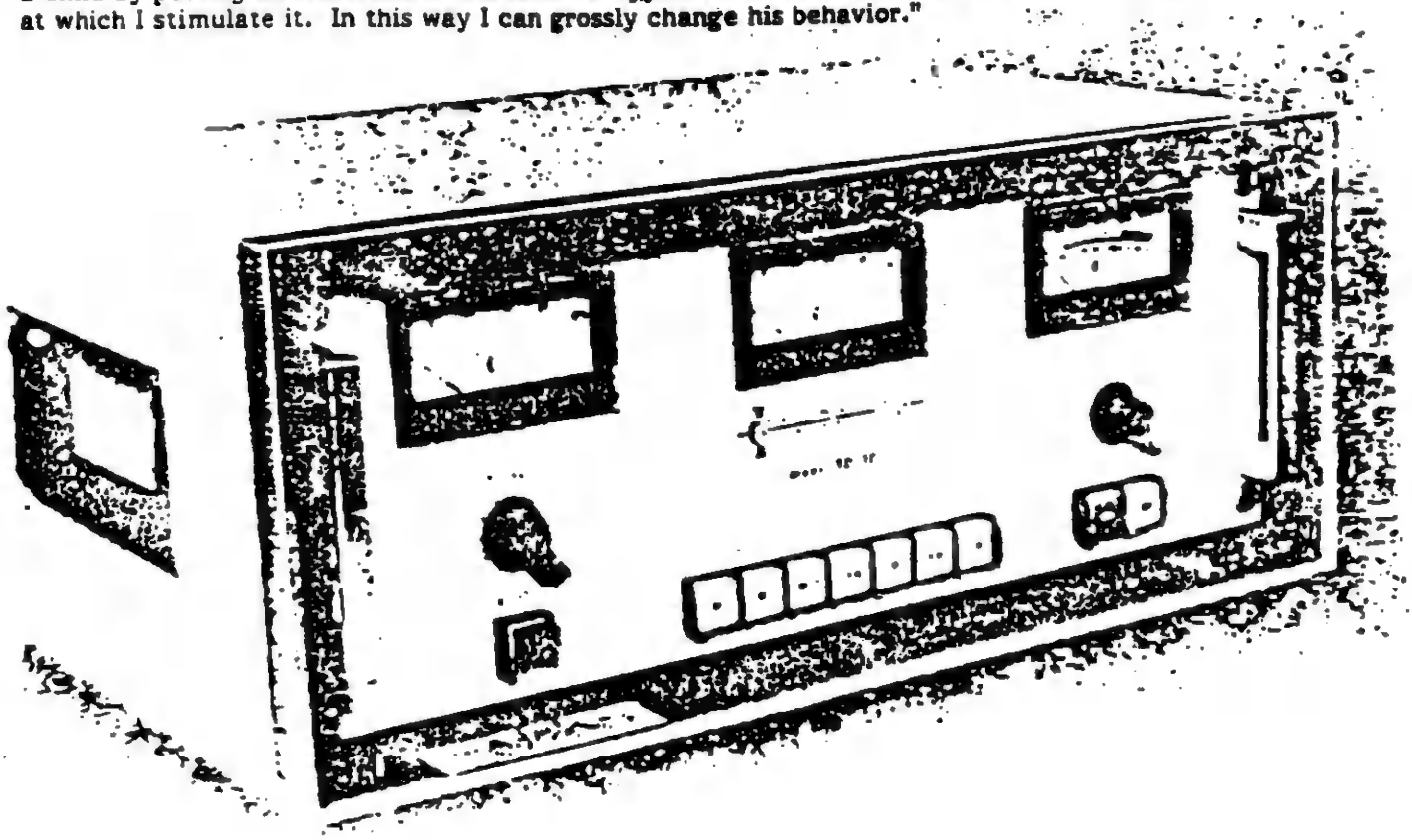
Dr. Pribram began making his mark in the medical and psychological fields by earning both a B.S. and an M.D. degree at the University of Chicago in two years. His research into brain function led to his interest in the behavioral sciences, and he is credited for uniting the two into the science of neuropsychology. Today Dr. Pribram carries on his research at Stanford University.

Dr. Pribram made two key discoveries through his extensive studies of the brain. First, he found that all of our behavior is governed by "images of achievement," and that without those images we cannot succeed in our endeavors.

Then Dr. Pribram [illegible] told an awesome mystery. He discovered how the human brain forms and acts upon visual and sensory images. He learned that the brain uses the same principles to generate and store images as the hologram – a life-like three dimensional image projected from a film plate into space. These discoveries meant that for the first time the relationship between visualization, motivation and achievement could be understood.

Dr. Karl Pribram, M.D.
Head of the Neuropsychology
Research Laboratory at
Stanford University

A quote from Karl Pribram from the book The People Shapers– "I certainly could educate a child by putting an electrode in the latereal hypothalamus and then selecting the situations at which I stimulate it. In this way I can grossly change his behavior."



THE INTELECTRON MODEL TD-100
PROFESSIONAL TRANSDERMAL THERAPY INSTRUMENT

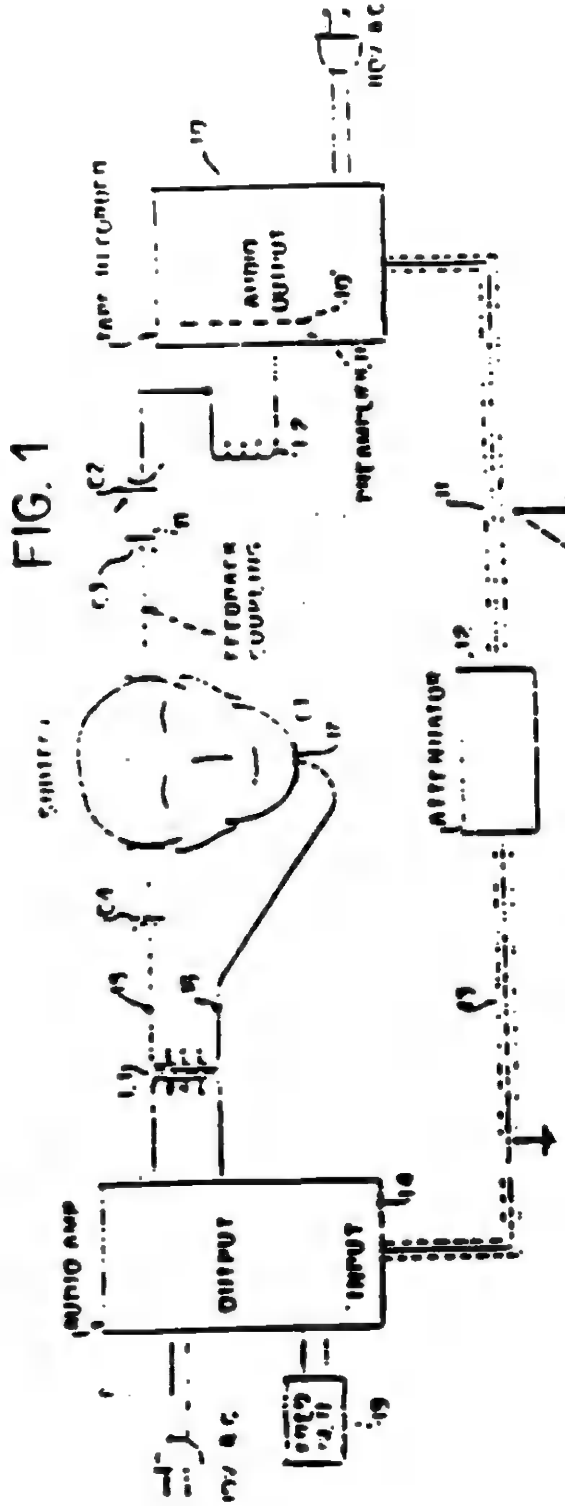

AUDIO AMP
OUTPUT
INPUT
FEEDBACK COUPLING
ATTENUATOR

FIG. 1

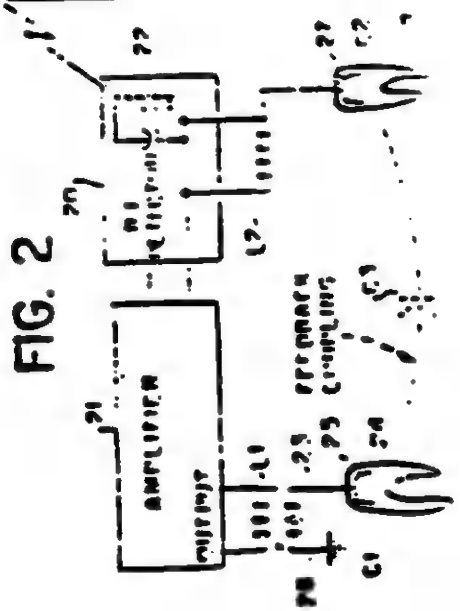

AMPLIFIER
FEEDBACK COUPLING

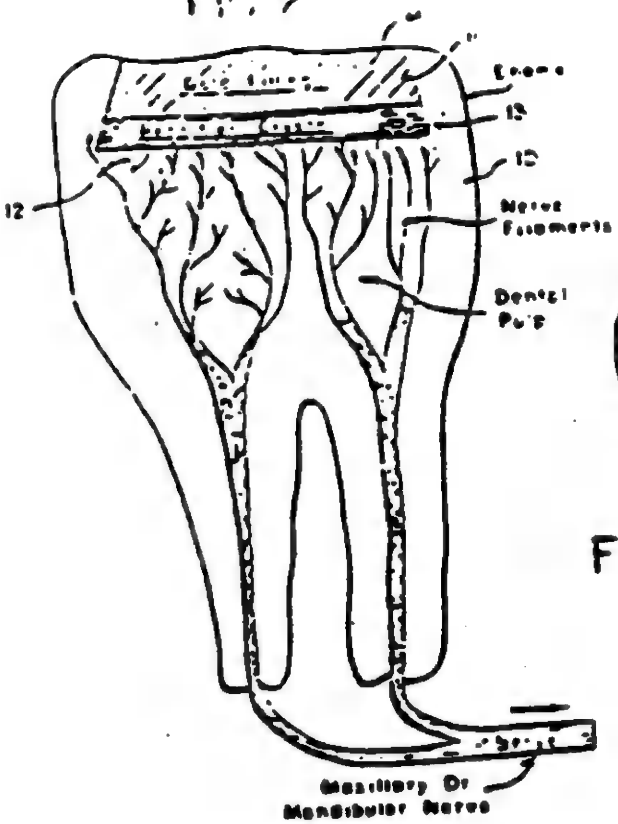
FIG. 2

Aug. 8, 1961 H. K. PUHARICH ET AL 2,995,633

[illegible]

[illegible]

FIG. 2



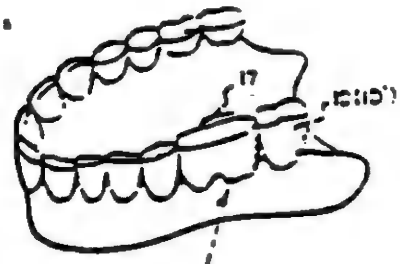


FIG. 4

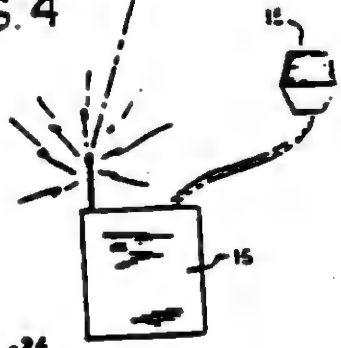
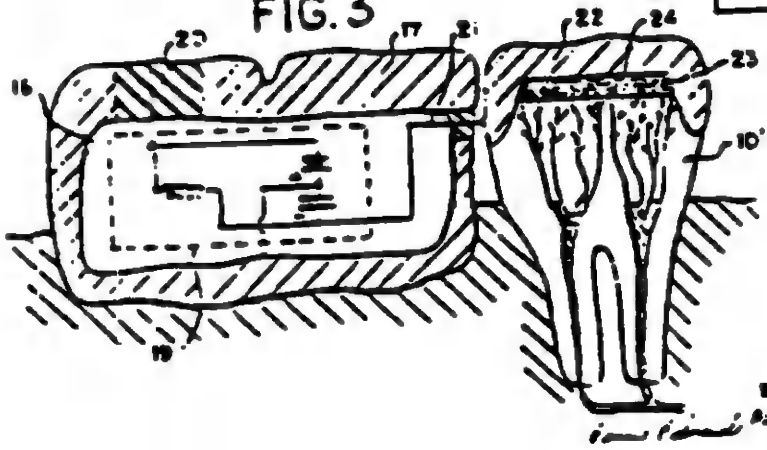


FIG. 3



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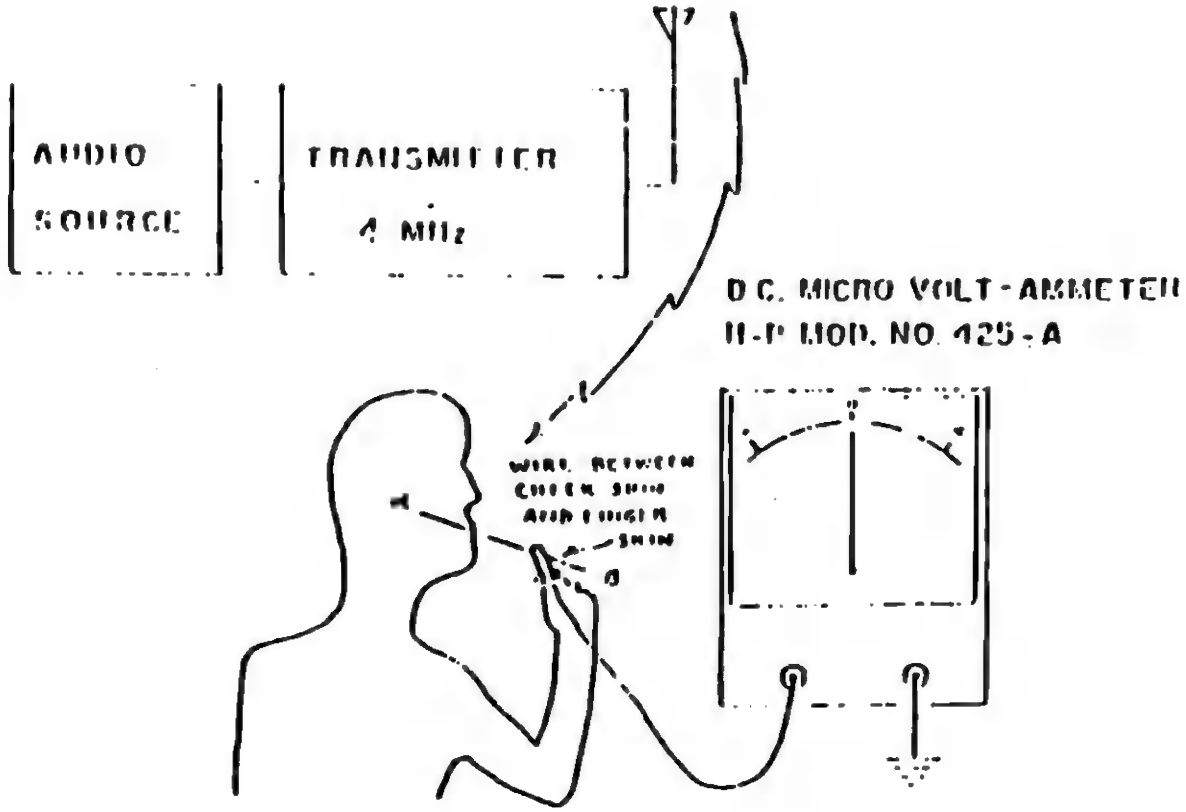


FIG. 46. MEASUREMENT OF DC SKIN POTENTIAL IN SHIELDED ROOM. RANGE OF DC OBSERVED IN 25 SUBJECTS.

1. WITHOUT RF FIELD -60.5 mv TO +59.5 mv. (STATIONARY FINGER)
2. WITH RF FIELD +200mv FOR ALL SUBJECTS (STATIONARY FINGER)
3. WITH RF FIELD +200 - +250 mv WITH EACH STROKE OF FINGER ON WIRE WHICH HEARING OCCURS WITH EACH STROKE OF FINGER ON WIRE.

Nov. 10, 1964 H. K. PUHARICH ETAL 3,156,767

SOLID STATE HEARING SYSTEM

Filed Oct. 23, 1958

FIG. 1

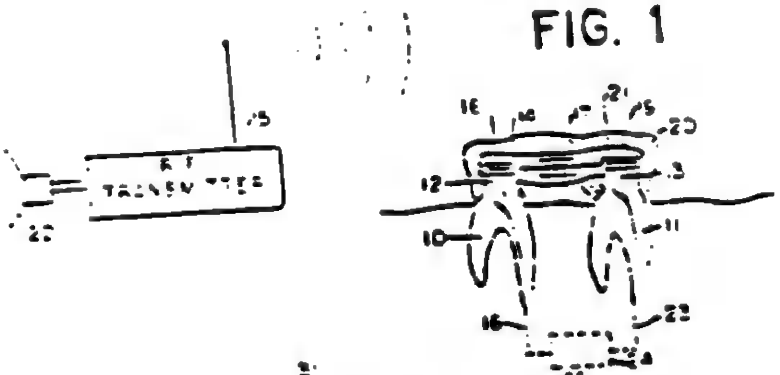


FIG. 2

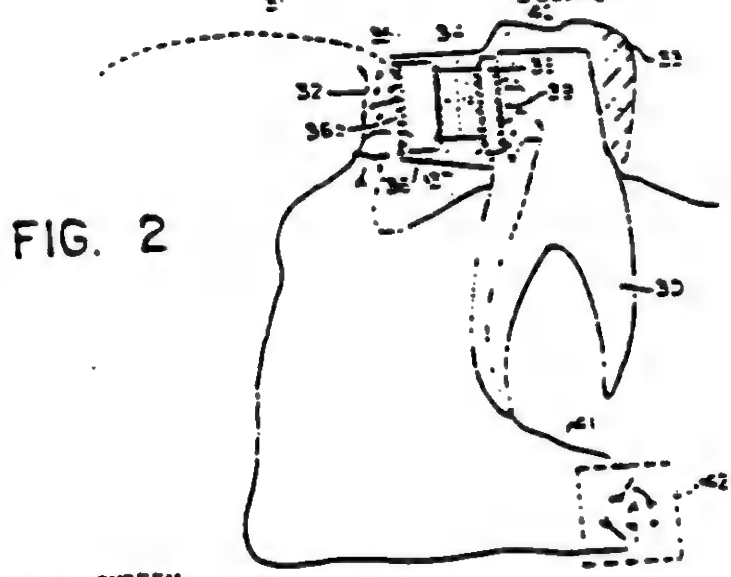
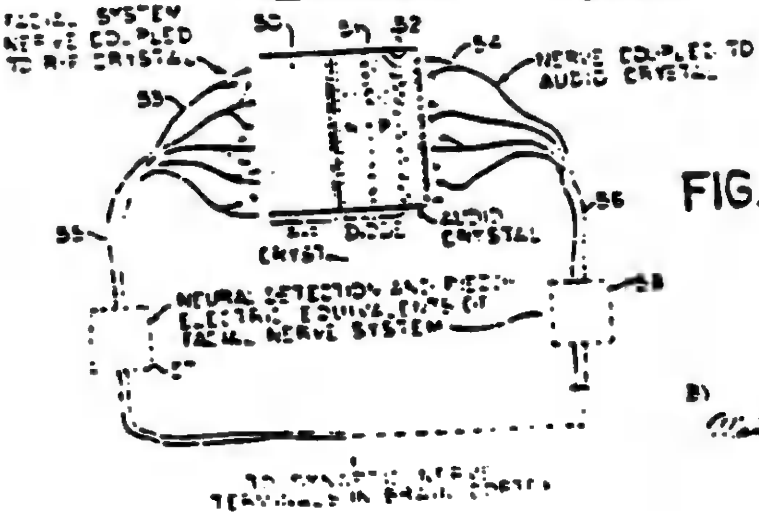


FIG. 3



INVENTORS
HENRY K. PUHARICH
JOSEPH L. LAWRENCE

BY

ATTORNEYS

Technical Analysis Report on Houston Implant
Prepared by Dr. Rod Lewis

Date: April 20, 1993

Investigators:

Dr. Rod Lewis
Acting Technical Analyst, Houston UFO Network

Derrel Sims, C.H.T.
Chief Abductions Investigator, Houston UFO Network

HISTORY: This specimen was obtained from a female subject on December 11, 1992. The subject will herein be referred to as DS92009LT. The subject reported recovering the object from her eye on the morning of December 11, 1992. She stated that she awakened with an irritation and while rubbing her eye, a small particle, about the size of a mustard seed, was recovered. The specimen was turned over to Derrel Sims, Chief Abductions Investigator, Houston UFO Network. The specimen was photographed and stored in a plastic case.

Subject DS92009LT reported to have been part of a mass abduction in Houston, Texas on the night of December 8, 1992. The subject reports that an implant was placed behind one of her eyes during the abduction. The complete report on the mass abduction of December 8, 1992 can be obtained under separate cover.

PHYSICAL DESCRIPTION: The specimen has been viewed under a standard light and stereoscopic microscopes. It appears flesh toned with an "egg" shape, approximately 1 - 1.5mm in length, and has a hollow interior. The apex has been truncated and lateral splitting from the apical area distally is noted.

The exterior of the specimen appears different from the interior. The exterior is smooth and non-porous with a mottled appearance. The interior has a spongy "honey-combed" appearance, and is lighter in contrast to the exterior. The specimen is resilient and does not permanently deform with pressure or manipulation.

PHYSICAL MEASUREMENTS:
Length: 1-1.5mm
Height: .25-.5mm (at highest point)
Width: .25-.5mm (at widest point)
Weight: N/A
Specific Gravity: N/A
Tensile Strength: N/A*
Melting Point: N/A*
Solubility: N/A*

N/A* = potentially destructive measurements

TAXONOMY: The specimen was taken to the Department of Biology at the University of Houston. It was examined by several doctoral and post-doctoral students. The specimen did not fit any known taxonomic classification. It was determined that the specimen was not biological.

QUALITATIVE ELEMENTAL ANALYSIS: Qualitative elemental analysis was performed on April 14, 1992 at the Superconductivity Laboratory, University of Houston, using an electron microprobe. A small sample was taken from the specimen for analysis. Microprobes were taken from various locations on the sample, and are considered to be representative of the specimen.

The following elements were found throughout the probe. This list does not reflect any particular order or percentages.

1) Carbon*

2) Oxygen*

3) Silicon**

4) Titanium**

5) Barium**

6) Beryllium***

7) Sulphur***

8) Aluminum***

* Primary constituents

** Secondary constituents

*** Tertiary constituents

Although absolute percentages of elements cannot be determined with this method, the specimen appeared to be carbon rich, suggesting that it is organic. The other earth elements are suspected to be present in trace quantities only, but have been determined to be part of the specimen and not contaminants. However, this hypothesis cannot be substantiated without quantitative analysis.

The probe also determined that the material was electrically non-conductive.

ANOMALIES: There are a few notable anomalies in the specimen. It is unusual for titanium and silicon to be present in a compound which is carbon rich and containing oxygen. It is also not consistent with the textural features of the specimen. Compounds containing titanium and silicon tend to be much more rigid and brittle. Also, the presence of beryllium is unusual in that it is normally found only in compounds which are electrically conductive.

SUMMARY AND CONCLUSIONS:

The specimen obtained from subject DS92009LT is an ovoid, flesh-toned object approximately 1-1.5 mm in length with a hollow core. Based on taxonomic examination it is non-biological. Qualitative analysis suggests a carbon rich non-conductive material with some unusual combinations of trace elements. The substance is most likely a high molecular weight organic compound. Polymers (plastics) are the most likely compounds to fit the elemental profile.

RECOMMENDATIONS:

1. Determine if the specimen is a polymer. This may be accomplished through HPLC (high pressure liquid chromatography) if a sample of the specimen is soluble in an organic solvent.

2. Consultation with a polymer chemist for additional tests which may be available.

Magnetic Implant Response Studies

The following excerpts are a summary of the research underway by Nicholas Reiter. Nicholas is a graduate of Terra Technical College, and is a professional research technologist for a solar cell manufacturing firm. He about thirty years old and has been interested in the UFO phenomenes all his life. The following is a brief of the summarization of his research as outlined in Dr. David Gotlib's Bulletin of Anomalous Experience; "Magnetic Implant Response" and "Magnetism, UFO Abductions and the Anomalous". Nicholas does not belong to any large UFO group (e.g. MUFON, CUFOS, etc.) and has been involved in this research for the past three years. Some of the following "quoted" passages are directly from sources listed above.

New observations which may well be some of the most significant discoveries made in regard to abductions, UFOS and mind control were first investigated in the Autumn of 1990. These tests and experiments were performed by Nicholas Reiter and his colleague (AR) in the Dallas area with confirmed abductees using a techniques that can easily be duplicated.

The objectives of these two were;

1. Can the UFO abduction process be understood in the terms of specific technology?

2. Can the abduction implant devices, recalled so often under hypnosis, be objectively detected, studied, and possibly neutralized by electrical, magnetic, or otherwise energy-related means?

3. Can a system of defense be developed against the protocol ?

Assumptions for the research/experimentation;

1. There exists an intelligence, of unknown origin and nature, which is currently carrying out an agenda of experimentation, manipulation, and/or resource acquisition using the human race, or certain members thereof, as unwilling subjects.

2. The agenda given in assumption 1 is being carried out with the use of highly advanced technology.

3. This technology appears to be, at least partially, based on forms of energy, or energy-matter relationships, which are currently unknown to, or unacknowledged, by classical physics.

4. The human race has the undeniable right to defend itself to the best of it's ability, against the abduction agenda.

The first set of experiments involved trying to find a means to elicit a tangible objective response from abduction implant devices. AR first noticed a "weird" sensation in her volunteers when a large (flux density measured at approx. 2000 gauss) horseshoe magnet had been held up to the region of the volunteers head where, under hypnosis, the volunteer had recalled aliens "doing something to her". The sensation was extraordinary vivid and disturbing to the volunteer. It seemed to be both mental and physiological in nature. In nearest terms it was a "panic" response, a mental feeling of terror or extreme apprehension, coupled with a verified rise in pulse rate and perspiration.

The volunteer (V#1), said that the panic response seemed to duplicate the feeling that she had been subject to in the past, shortly before an abduction related event would occur. Over the course of the following weeks several different tests were conducted with the subject V#1.

1. A large electromagnet (1000 turns of #14 AWG wrapped around an iron core) was substituted for the horseshoe magnet. This coil was energized both with 110VAC and later with 6VDC, in different tests. The response for both were smaller in magnitude than the horseshoe magnet although the symptoms were the same.

2. While using the horseshoe magnet a piece of steel was placed between the poles to divert the magnetic flux away from any external regions of the magnet. This test was performed to determine if the actual flux lines were involved in the response or whether the response was based on other "virtual" effects of magnet.

3. The response (hereafter called the Magnetic Implant Response or MIR) seemed to first appear when the magnet was moved within 18 inches of the volunteer's response region (area of the implants). From this distance inward, the intensity increased.

4. The Tesla Coil Suppression Effect (TCSE) was discovered. This will be discussed later.

Nicholas and AR then started testing other volunteers in Jan 1991. Previous to this their research was being performed with the assistance of V#1 only. On Jan 8, they tested another confirmed volunteer. No communication was allowed between V#1 and V#2. The symptoms experienced by V#2 were identical to those of V#1.

Over the course of the next few months, two other volunteers were tested. V#3 showed a positive reaction with consistent symptoms. V#4 however, felt no response or sensations.

Nicholas and AR started researching the nature of the abductions experienced by all volunteers. They found that V#1, V#2 and V#3 were "classical" abductees, though their specific experiences and ordeals were different. Each recalled, during either their regression, or waking memories, the phenomens most often experienced by those who have been repeatedly abducted (e.g. Grey entities, quasi-medical protocols, possible implant insertion, etc.). V#4's abduction experience were quite "non-standard" and may involve different phenomena.

It was decided that the research should then continue. The second phase of experimentation continued. AR reported the following; V#1 was placed in a chair, and was tested for MIR. Results were positive. An 18 inch tall Tesla spark gap coil was set up in front on V#1. The coil was turned on and allowed to operate for several minutes (then coil's power was adjusted to produce a 4 inch discharge at the secondary. Exact construction details are available from Nicholas Reiter).

V#1 was then checked for MIR and the results were negative. The MIR had vanished. V#1 was checked again 24 hours later and the results were still negative. The nullifying effect lasted for approximately six days. When it DID return it was at a much diminished magnitude. From this observation it was inferred that the MIR had not been eliminated, but had been in some way deadened or temporarily stunned.

V#2 was similarly tested with the Tesla coil and the results were identical. The MIR ceased for a period of time.

Another interesting effect was noticed by V#1. She was given the Tesla coil to take home with her. On several occasions, specifically on certain evenings V#1 would get the feeling that unseen entities were nearby. She found that by switching on the Tesla coil, the sensation would vanish, as though the coil was disrupting or driving away the invisible force.

This concludes the studies performed by Nicholas Reiter in conjunction with AR.

Nicholas has continued his research. Lack of volunteers prompted him to start research in a slightly different vein. He started testing subjects randomly, business associates, friends, family, and people on the street were tested with some surprising results.

The subjects were told that some people have the ability to "sense" magnetic fields for unknown reasons and that he (Nicholas) would like to determine if they (the volunteers/subjects) can detect them as well.

The volunteers were placed in a comfortable chair. A galvanic skin response indicator was placed on the second and third fingers of the left hand. The volunteer was then shown the magnet (similar to the one used in the original experiments). The volunteer is asked to verbalize any feelings or sensations which they might experience during the test. The subject is then blindfolded and a few minutes are allowed to let the galvanic skin response monitor to "settle out".

At this point, the magnet is then moved slowly and randomly around the head. Spacing is kept at two inches at all times from the subjects head. Sensations, feelings and GSP monitor response are observed and recorded. When the test is completed the volunteers are thanked and released. If permitted the age, sex, occupation and names were recorded.

Out of the first 24 subjects tested 5 showed a positive response to this procedure. One or more of the following characteristics were noted in each case;

1. A feeling of apprehension or panic.

2. A sensation of pressure or tightness

3. A feeling of disorientation

4. Dark, formless shape moving against closed eyelids.

5. Uncontrollable finger twitching

None of the five random positive response cases were totally identical in symptom. However, the following characteristics were common in all five cases;

1. The feeling was weird or unpleasant.

2. Extreme nervousness and anxiety was present

3. The effect was vivid and definite.

4. The GSR monitor tone increased, indicating increased bodily perspiration.

5. The response occurred at a single, definitive location on each subjects head.

The areas included were;

Case #6 - behind and below the left ear.

Case #2 - left temple (in front of, and slightly above left ear)

Case #3 - "above nose, somewhere between and behind the eyes.

Case #13 - Left temple

Case #21 - Above and slightly behind left ear

The above test results were obtained during 1991 and published that same year. further testing is being done at this time. Nicholas has designed some electronic equipment dealing with a "security" system or abduction prevention equipment. The description and plans for these devices and being processed into files which may be downloaded from HIGH SCIENCE (713) 688- 2030. Or may be available from the BBS carrying this file.

This is the first of these files and subsequent files are being processed.

Nicholas Reiter may be contacted at;

Nicholas Reiter
541 W. Stone St.
Gibsonburg, Ohio 43431

OR

c/o High Science BBS
(713) 688-2030 (modem)
9600 baud 24 hours/day 7 days/week

DANIEL 9:25

State will put MAGIC to work on traffic tieups

By KEVIN COUGHLIN

Tired of staring into a sea of brakelights? The state plans to extend the information superhighway to some not-so-super-highways, starting with Route 80 in Morris County later this year.

It's called MAGIC, a wishful acronym for a series of gauge-linked road signs to steer motorists around jam-ups. By 1998, the $32 million system is expected to mesh info from six major traffic corridors:

■ Route 80 from the George Washington Bridge to Route 287 in Parsippany-Troy Hills, slated to be the first operating segment in 1995.

■ Route 78 from the New Jersey Turnpike to Route 31.

■ Route 287.

■ Routes 1 & 9.

■ The northern portions of the Turnpike and the Garden State Parkway.

Nobody is promising a cure for traffic. But officials hope to make daily commuting a bit more civilized by arming the public with updates about accidents and alternate routes.

"We don't have room to build more highways to increase capacity, so we have to improve the efficiency of the highways we have," said Paul Carris, the state Department of Transportation's director of [illegible] Highway Services.

Electronic road signs to assist motorists

monitoring programs in California and Long Island. Using fiber-optic cables, sensors embedded every half-mile in the roadways will alert a central control center – initially in Elmwood Park, later in Newark – to changes in traffic speed and volume. Video cameras mounted at strategic locations will verify problems detected.

Motorists then will be fed appropriate instructions via message boards, low-powered highway advisory radio (usually at 530 or 1610 on the AM dial) and standard commercial radio.

When detours off Route 80 are needed, the DOT command center will be able to stagger the stoplights on nearby Route 46 to accommodate the extra surge, Carris said.

Long Island's INFORM (Information for Motorists) system allows coordination of signals along the Jericho Turnpike and service roads of the Long Island Expressway when the LIE comes to a halt.

"The system is phenomenal," said Mark Mueller, INFORM operations manager. Created by the New York State transportation department six years ago, INFORM has 35 video cameras, 80 message boards and sensors spanning 35 miles of the LIE and Northern State and Grand Central parkways. The [illegible]

prise.

But all the sensors, signs and stations in the world won't overcome the need for more roads, tunnels and bridges – or fewer cars.

"None of these things will make traffic flow at 55 mph every day, every way, all the time," conceded Bernie Wagenblast of TRANSCOM, a government-sponsored, tristate consortium of traffic agencies. However, he said, MAGIC should help commuters decide when to take mass transit or carpool when traffic is really ugly.

MAGIC won't make Shadow Traffic disappear, either, insisted Chris D'Agosto of the Rutherford-based traffic reporting network. "We see it as being a help to us, a new source of information," D'Agosto said.

Carris said the big challenge for regional traffic agencies is standardizing message boards and highway advisory radio so data is easily understandable to harried drivers. The DOT operates radio stations in Allamuchy and Wayne on Route 80 and in Roseland on Route 280, and is studying whether to add more. To ease frayed nerves on Route 80, the DOT also recently began motorist aid van patrols.

Tempers were plenty short last week on Route 80, where the state opened carpool lanes for 10.5 miles between Rockaway Township and Parsippany. Weekday DOT statistics showed a rise in use of the eastbound lane. Ridership in the westbound Diamond Express lane dropped off Thursday night, the last period for which figures were available.

Role motorists complain they are being excluded from the extra lanes after enduring years of

Photo by John O'Boyle

Motorists take advantage of new technologies to speed traffic along Route 80 in Parsippany

BASED IN NEWARK N.J. — THE SUNDAY STAR-LEDGER, March 13, 1994

Section One: Page 35

'Smart highways' emerging as the roads of the future but not a cure-all

By GUY T. BAKER

"Smart highways" that use electronic information technologies to detect delays, divert drivers and thus increase highway capacity will never be a panacea for the New York-New Jersey region's chronic traffic congestion, according to a panel of transportation experts.

Speaking at a conference on Intelligent Vehicle Highway Systems, the technical name for "smart highways," Paul Carris, director of IVHS for the state Transportation Department, said, "IVHS alone cannot bring up the efficiency of our highway system. It must be part of a broader effort to deal with congestion."

Carris and others at the regional conference Friday in Manhattan said fighting congestion will still require the use of mass transit, vanpools and carpools, discouraging drive-alone commuting and avoiding more suburban sprawl.

The conference, attended by more than 300 people, was sponsored by the U.S. Department of Transportation and IVHS America, a public-private organization seeking to promote the use of IVHS technologies.

Transportation officials in New York and New Jersey are preparing to spend hundreds of millions of dollars on a number of IVHS technologies.

Among the technologies motorists are expected to see in the next few years are:

■ Electronic dashboard "transponders" to allow drivers to pay bridge, tunnel and highway tolls without stopping at a toll booth, instead simply billing their accounts on the fly.

■ Roadside vehicle detectors and television cameras to detect traffic backups as soon as they occur, giving police and emergency vehicles a chance to respond more quickly and minimize delays.

■ Computer controlled stop lights linked to traffic detectors to form "platoons" of vehicles and then to speed them through dozens of busy highway intersections at a time without slowing them down with any red lights.

Despite the possibilities, Emil Frankel, Connecticut commissioner of transportation, said, "There is a danger as we move into this field that it become technology-driven, that this becomes a case of new toys to play with. Frankly, we can't afford that."

"We still have to test whether these new technologies have application to the day-to-day problems that we face, if they add value to the day-to-day lives of the people we serve," said Frankel.

Lawrence Yermack, chief financial officer for New York's Triborough Bridge and Tunnel Authority, told participants at the conference, "We have to be careful not to oversell this technology. IVHS is not a panacea."

Yermack, who has been involved in efforts to install electronic toll collection equipment on all of the region's toll roads and bridges, said much of the technology was developed by large defense contractors for use by the Pentagon and that part of the reason for the push to use it in the civilian transportation field is that the companies are seeking new markets now that the Cold War is over.

Henry Peyrebrune, first deputy commissioner of transportation for New York state, cautioned that the budding IVHS industry will have to demonstrate its worth over the next few years if it is to continue receiving large amounts of federal funding.

"We must be able to show Congress some actual results on the street," he said.

Industry experts are predicting that as much as $200 billion could be spent on IVHS technologies over the next 20 years, an amount rivaling what was spent to build the Interstate Highway System over the past 40 years.

Four major defense contractors – Westinghouse Electric, Hughes Aircraft, IBM and Rockwell International – are in the midst of designing competing national IVHS systems for the Federal Highway Administration, with one system to be picked for the nation sometime in 1996, said Michael Schagrin, a systems engineer with the FHWA.

Thomas Werner, director of traffic engineering for the New York state Department of Transportation, said New York hopes to spend about $230 million on IVHS projects over the next five years.

Carris said officials in New Jersey hope to spend "several hundred million dollars" on IVHS projects over the next several years.

Werner said IVHS technologies are "not a cure-all," but that New York officials estimate they could reduce highway fatalities in their state by 8 percent and reduce economic losses due to highway congestion by 15 to 20 percent by 2011.

However, like Carris, Werner cautioned that the technology must not be used only to ease highway congestion, but also to benefit buses and trains, as well as vanpools, carpools and other alternatives to the single occupant car.

Many environmentalists and mass transit advocates have been cool to IVHS, seeing it as an effort to continue increasing highway capacity rather than begin trying to reduce automobile use, and with it air pollution, suburban sprawl, loss of open space and continued deterioration of cities and mass transit ridership.

Moving away from automobile dependence would not only ease highway congestion, but reduce "racial and economic polarization" and avoid spreading congestion into now rural areas, she said.

Eva Lerner-Lam, a Tenafly transportation consultant and former NJ Transit board member, said IVHS technologies can also be used to help make buses and trains more efficient and convenient for riders.

But she said most bus and rail agencies have shown little or no interest in the emerging technologies.

"They are in real danger of missing a very important opportunity if they don't get involved in this now," she warned.

10 Dec 1994 AZ REPUBLIC

Can satellites turn bogeys into birdies?

El Dorado goes high-tech with computers on golf carts

By Chuck Hawley
Staff writer

GILBERT — Traffic on the much-touted information superhighway now includes golf carts.

Stubby electric vehicles trundling over a broad expanse of greenery might not seem very high-tech, but the bucolic game that Ben Hogan described as "a walk in the park" now is being watched by satellite at El Dorado Lakes Golf Club.

Pro Link — trade name for the system — is the first application of an elaborate Space Age technique called "remote asset management" designed and installed by Leading Edge Technologies of Chandler.

Stripping the technology to basics, the system consists of a computer in the pro shop, a small color television on the golf cart, a communication link between the two and a microelectronics communicator to send information to a satellite.

Within the computer is a color map of the course and a separate image of each hole which golfers can call up on their screen as they play.

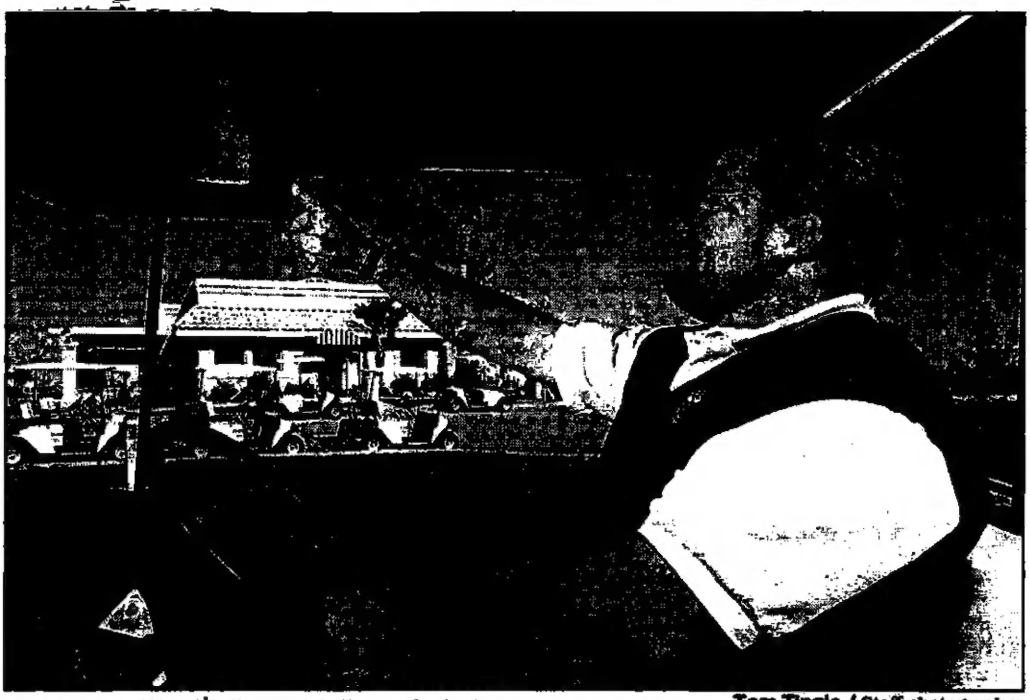
The diagrams — not unlike a video golf game — show yardages from the tee to the hole and also pinpoint the location of the cart with accuracy to within 3 yards.

Hazards possibly hidden from the golfer's view also are revealed on the charts, including the position of water and sand, and the shape and elevations on the greens.

While all this is going on, one of 26 satellites is keeping track of the cart. The satellites are part of the Geographic Positioning Satellite System developed for the U.S. Department of Defense and now available for commercial civilian use.

Back in the pro shop, the computer receives the information and can tell where every golf cart is at any time.

"As a management tool, the possibilities are almost limitless," said Scott Macaluso, head golf professional at El Dorado, where Pro Link is being debugged and tested.



Tom Tingle / Staff photographer

El Dorado Lakes Golf Club head professional Scott Macaluso checks out a tracking system monitor on a golf cart. The system is linked to a satellite and can tell within 3 yards where a cart is on the golf course.

> **"It will show us where slow play occurs, and we can actually send a message to that cart asking them to pick up the pace."**
>
> **Scott Macaluso**
> Head golf professional
> El Dorado

"It will show us where slow play occurs, and we can actually send a message to that cart asking them to pick up the pace."

Only two carts and the pro shop are fully equipped during the testing period, but Macaluso said that he hopes to have all of the carts hooked up by mid-January.

Reactions to the system by those who have tried it have been "awesome," Macaluso said.

"At another course, one of the chief complaints we had from people playing for the first time was that they didn't know where they were or what was expected of them when they approached the hole," he said.

"With Pro Link, a person can play this course for the first time and have almost every bit of information available to a member who had played dozens of rounds."

Asked if the game is ready for the Space Age — and for yardage information which likely would be banned under present rules — Macaluso said he thinks so, but it will take time.

Macaluso said the system wouldn't make the golf course better, but "I think it does make it a better facility" overall.

Jim Lawrence, director of golf at the state's oldest golf course, the Sheraton San Marcos in Chandler, said the system "sounds like 'Star Trek' stuff" but acknowledged that he's "pretty much of a traditionalist" and would want to see such a system in use before believing that it could be more than a gimmick.

"When I heard of this, I equated it with supermarket grocery cart computers that told people where they were in a store," Lawrence said. "Those didn't seem to last very long."

Lawrence said applications of the same technology might be valuable in other industries, but for golf courses, the color TV screen and its Big Brother eye-in-the-sky appear to "be a novelty for now."

"We'll see."

[nwotech.asc]

12/03/93 02:19 APFN HQ 702-369-8101 => "Friends Faxing Friends."

DR. CARL SANDERS, INVENTOR OF THE MICROCHIP, WILL BE SPEAKING IN CITRUS HEIGHTS, 12/3/93, 7:00PM

SOME OF THE TOPICS THAT DR. SANDERS WILL DISCUSS:

MICROCHIPS

For the first time I saw and handled microchips. It was with an awful feeling, Dr. Sanders brought a scanner and showed me how the chips are read. He also brought two different guns with loaded microchips, which are presently used for marking animals. I did not like what I saw. It is getting too close and uncomfortable to the coming of the "Mark of the Beast."

Dr. Sanders has been in a number of prophecy conferences and had the opportunity to meet with many Christians who are active in this field. The WORLD GOVERNMENT IS MUCH MORE DEVELOPED THAN WHAT I THOUGHT.

BLACK BOXES IN ALL NEW CARS

All new automobiles are equipped with a black box. This is a radio transmitter and receiver that also contains a memory chip. As the United States is now in the last stages of completing the new satellite system, every automobile with a black box can be located via satellite. When the system is in full operation, the Government will know exactly where every vehicle has been and how many miles it traveled, including date and time. Then a new tax is planned for the people which will be billed on a monthly basis.

NON-LETHAL WEAPONS

In the new edition of The Dove, Autumn/Winter 1993, we have an article on Non-lethal weapons which were developed by the U.S. Government and are now being perfected in our military laboratories. Dr. Sanders confirmed to me that this was indeed true and that for the first time in the history of man, a government will have the option to alter the thinking of individuals as well as of masses of people, without killing them.

GULF WAR MYSTERY ILLNESS

Dr. Sanders also shared with me, that prior to the Gulf war, the American people were informed that the Iraqi government had biological weapons, and one of the diseases they had loaded into their shells was Anthrax. Therefore, all American service men and woman going overseas were inoculated with an Anthrax vaccine, the vaccine was so potent and at the same time ill tested, that some soldiers died on the spot as they were given the shots. Their bodies were hauled off, and the inoculations continued without hesitation.

The mystery illness that is now plaguing thousands of Gulf War veterans is from the inoculation against Anthrax, and the death rate is now climbing.

U.S. AIR FORCE DROPPING ALL AIRCRAFT MARKINGS

The United States Air Force has removed all markings, including unit insignias, from U.S. Air Force planes. The only remaining identifying mark is a black number on each plane. Dr. Sanders told me this is part of the plan to turn over the entire military structure to the United Nations within a short time.

U-2 SURVEILLANCE AIRCRAFT

When I shared with him that the U.S. Air Force has activated almost all of their U-2 surveillance aircraft, he told me some shocking news. From another source I had learned that the U-2 has been modified by lengthening the nose several feet in order to house a satellite communication system. This makes it possible for the U-2 pilot to fly over the target and than send pictures and other data directly to a satellite, which then turns it over to a command center on the ground.

Dr. Sanders told me that most of the American satellites now feed directly to the very secret PINE GAP complex in Australia. This was a U.S. Air Force base, but is now turned over to the UN. This base now has over 25,000 people working at its facility of which most is a vast under ground complex. The Pine Gap Complex was featured some years ago in The Dove magazine.

Dr. Sanders also told me that two of the world's most powerful computers have been moved overseas. CRAY-5 has been moved to Brussels in Belgium and Cray-7 is now located at PINE GAP. Cray-7 is a monster computer. It has a living protein memory, which is built from aborted baby brain cells, and this living organism must be fed daily to stay alive.

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* Origin: V E R I C O M M BBS (510) 891-0303, P.O. BOX 32314 OAKLAND CA 94604-2314